JUNE 2019

A DATA BOOK

Health Care Spending and the Medicare Program

MEDPAC Medicare Payment Advisory Commission

Introduction

The MedPAC Data Book provides information on national health care and Medicare spending as well as Medicare beneficiary demographics, dual-eligible beneficiaries, quality of care in the Medicare program, and Medicare beneficiary and other payer liability. It also examines provider settings—such as hospitals and post-acute care—and presents data on Medicare spending, beneficiaries' access to care in the setting (measured by the number of beneficiaries using the service, number of providers, volume of services, length of stay, or through direct surveys), and the sector's Medicare profit margins, if applicable. In addition, it covers the Medicare Advantage program and prescription drug coverage for Medicare beneficiaries, including Part D.

MedPAC began producing its annual Data Book at the suggestion of congressional staff. Some of the information it contains is derived from MedPAC's March and June reports to the Congress; other information presented is unique to the Data Book. The information is presented in tables and figures with brief discussions.

We produce a limited number of printed copies of this report. It is, however, available through the MedPAC website: www.medpac.gov.

Notes on data

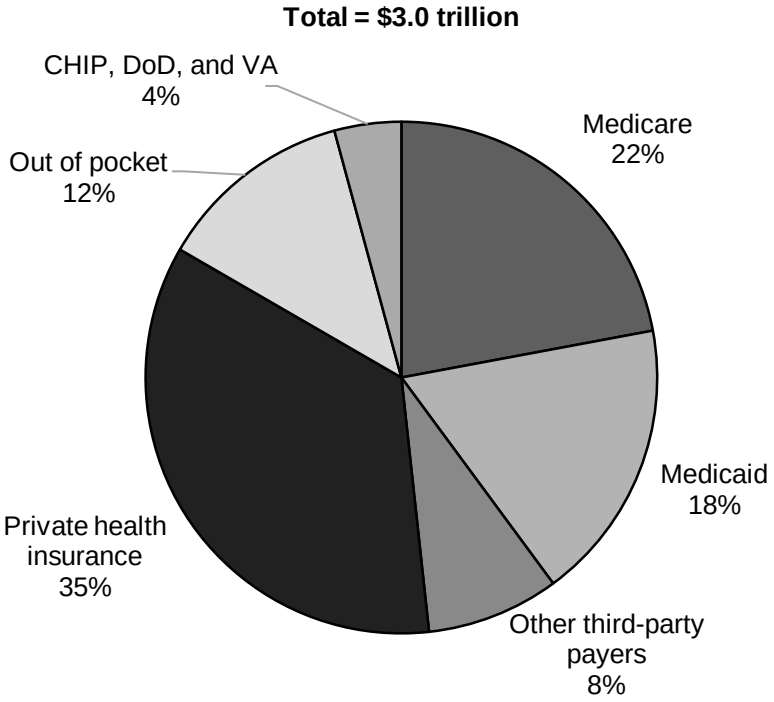
Changes in aggregate spending among the fee-for-service sectors presented in this Data Book reflect changes in Medicare enrollment between the traditional fee-for-service program and Medicare Advantage. Increased enrollment in Medicare Advantage may be a significant factor in instances in which Medicare spending in a given sector has leveled off or even declined. In these instances, fee-for-service spending per capita may present a more complete picture of spending changes. We present both measures (aggregate and per capita) where warranted.

Table of contents

SECTION 1

National health care and Medicare spending

Chart 1-1. Medicare was the largest single purchaser of personal health care, 2017



Note: CHIP (Children's Health Insurance Program), DoD (Department of Defense), VA (Department of Veterans Affairs). "Personal health care" is a subset of national health expenditures. It includes spending for all medical goods and services that are provided for the treatment of an individual and excludes other spending such as government administration, the net cost of health insurance, public health, and investment. "Out-of-pocket" spending includes cost sharing for both privately and publicly insured individuals. Premiums are included in the shares of each program (e.g., Medicare, private health insurance) rather than in the share of the out-of-pocket category. "Other third-party payers" includes worksite health care, other private revenues, Indian Health Service, workers' compensation, general assistance, maternal and child health, vocational rehabilitation, other federal programs, Substance Abuse and Mental Health Services Administration, other state and local programs, and school health. Slices do not total 100 percent because of rounding.

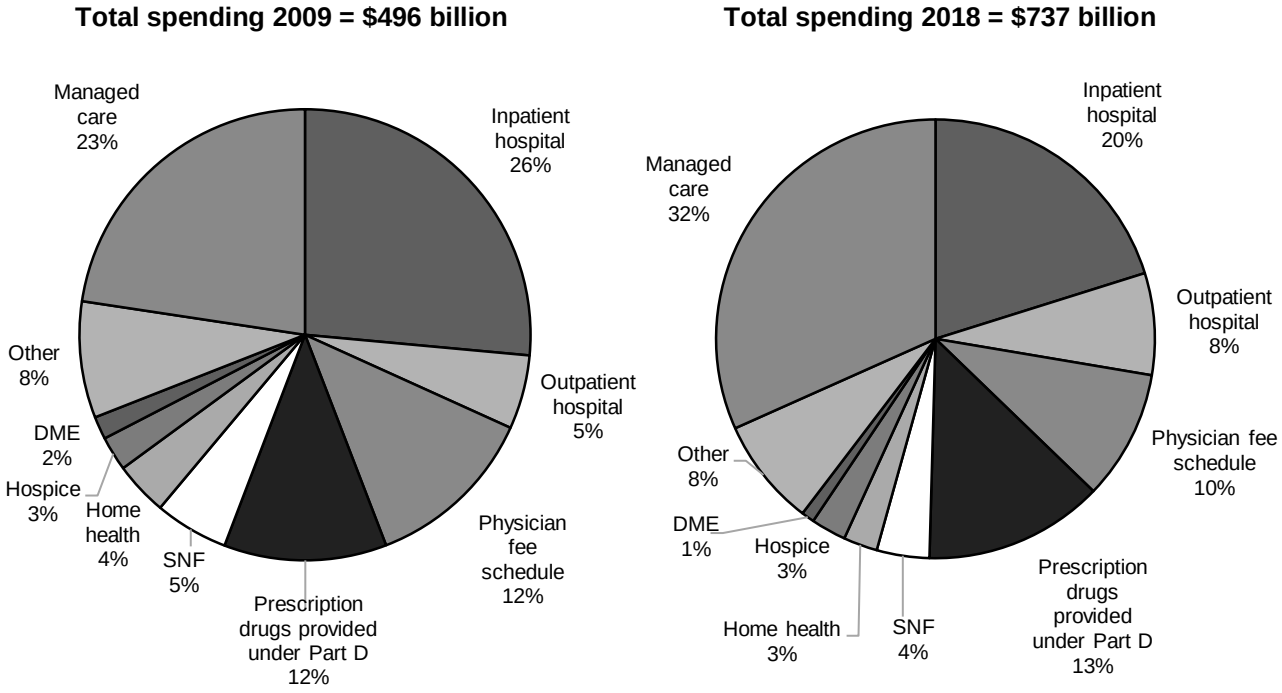
Source: CMS Office of the Actuary, National Health Expenditure Accounts, "Table 6: Personal Health Care Expenditures; Levels, Percent Change and Percent Distribution, by Source of Funds: Selected Calendar Years 1970–2017," released December 2018.

- Medicare is the largest single purchaser of health care in the United States. (The share of spending accounted for by private health insurance (35 percent in 2017) is greater than Medicare's share (22 percent in 2017). However, private health insurance is not a single purchaser of health care; rather, it includes many private plans, including traditional managed care, self-insured health plans, and indemnity plans.) Of the $3.0 trillion spent on personal health care in 2017, Medicare accounted for 22 percent, or $660 billion (this amount includes spending on direct patient care and excludes certain administrative and business costs).

- Thirty-five percent of spending was financed through private health insurance payers, and 12 percent was consumer out-of-pocket spending.

- Medicare and private health insurance spending includes premium contributions from enrollees.

Chart 1-2. Medicare spending is concentrated in certain services and has shifted over time

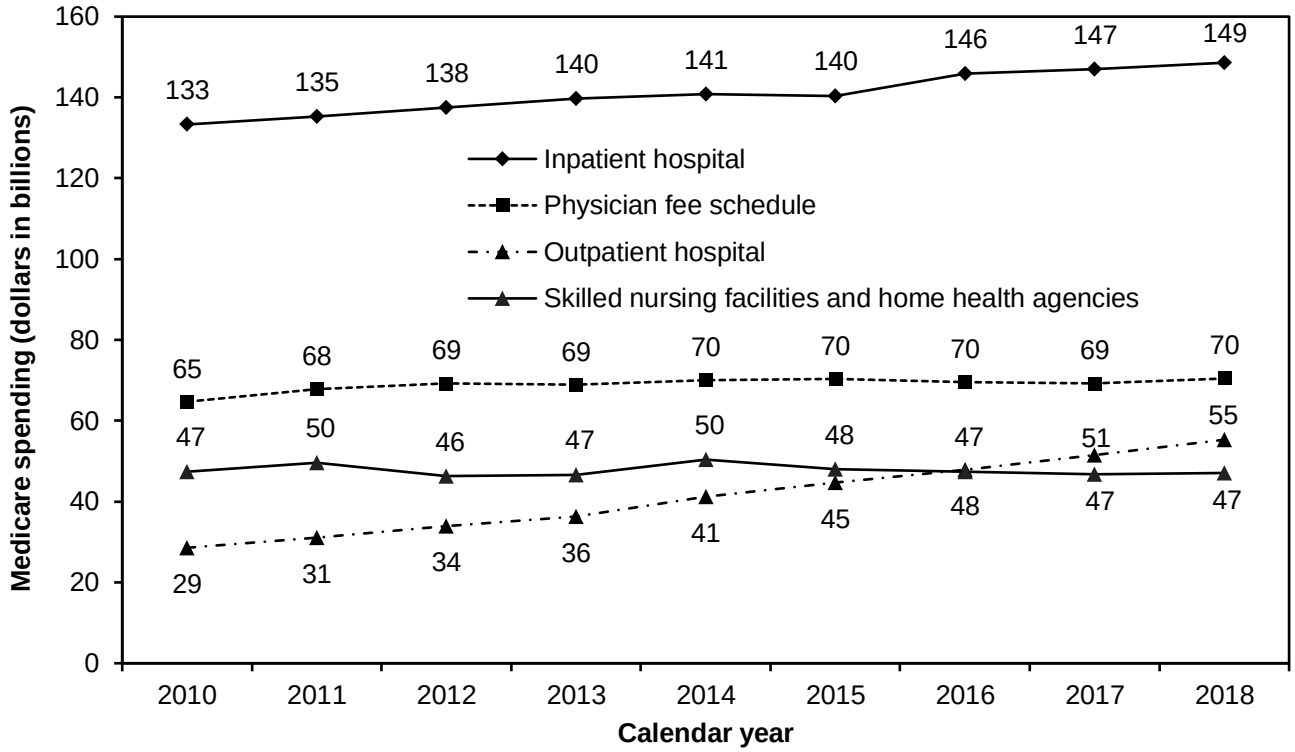


Note: DME (durable medical equipment), SNF (skilled nursing facility). All data are by calendar year. Dollar amounts are Medicare spending only and do not include beneficiary cost sharing. "Other" includes items such as laboratory services, physician-administered drugs, renal dialysis performed in freestanding dialysis facilities, services provided in freestanding ambulatory surgical center facilities, and ambulance. Components do not total 100 percent because of rounding.

Source: The annual report of the Boards of Trustees of the Medicare trust funds 2019.

- The distribution of Medicare spending among services has changed over time.
- In 2018, Medicare spending totaled $737 billion for benefit expenses. Managed care was the largest spending category (32 percent), followed by inpatient hospital services (20 percent), prescription drugs provided under Part D (13 percent), and services reimbursed under the physician fee schedule (10 percent).
- Spending for inpatient hospital services was a smaller share of total Medicare spending in 2018 than it was in 2009, falling from 26 percent to 20 percent. Spending on beneficiaries enrolled in managed care plans grew from 23 percent to 32 percent over the same period. Medicare managed care enrollment increased 82 percent between 2010 and 2018 (data not shown).

Chart 1-3. Aggregate Medicare spending for FFS beneficiaries, by sector, 2010–2018



Note: FFS (fee-for-service). "Physician fee schedule" includes spending on services provided by physicians and other health professionals such as nurse practitioners, physician assistants, and physical therapists. Dollar amounts are Medicare spending only and do not include beneficiary cost sharing. Spending for Medicare Advantage enrollees is also not included.

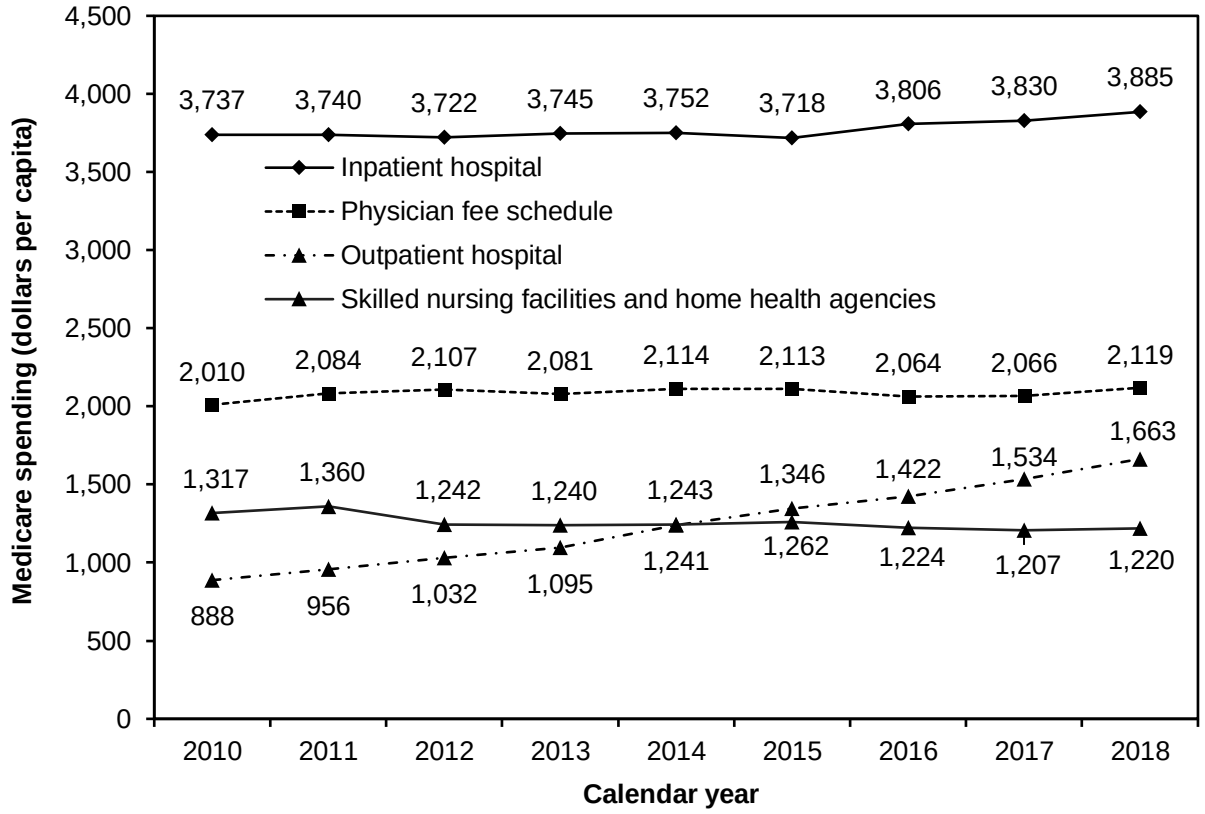
Source: The annual report of the Boards of Trustees of the Medicare trust funds 2019.

- Medicare spending for FFS beneficiaries has increased since 2010 across most sectors, even though spending growth has slowed recently. The slowdown is partly attributable to a decline in the growth of FFS enrollment since the number of Medicare Advantage enrollees has increased.

- Spending growth for inpatient hospital services, the sector with the highest level of spending, averaged 1.4 percent per year from 2010 to 2014. Spending then declined slightly by 0.3 percent between 2014 and 2015 (calculated on unrounded numbers). This decline is partly attributable to a shift in service volume from the inpatient setting to the outpatient setting and to the decline in the growth of FFS enrollment, but it may also reflect broader economic conditions. Spending then increased by 1.9 percent per year on average between 2015 and 2018 (calculated on unrounded numbers). Despite the slowdown, spending on inpatient hospital services increased, in aggregate, 11.5 percent from 2010 to 2018 (calculated on unrounded numbers).

- Spending growth for outpatient hospital services remained high throughout the period, averaging 8.6 percent per year from 2010 to 2018. Aggregate spending on outpatient hospital services increased 93.5 percent ($29 billion to $55 billion) from 2010 to 2018 (calculated on unrounded numbers).

Chart 1-4. Per capita Medicare spending for FFS beneficiaries, by sector, 2010–2018



Note: FFS (fee-for-service). "Physician fee schedule" includes spending on services provided by physicians and other health professionals such as nurse practitioners, physician assistants, and physical therapists. Dollar amounts are Medicare spending only and do not include beneficiary cost sharing. Spending for Medicare Advantage enrollees is also not included. Spending per beneficiary for inpatient hospital services equals spending for the sector (see Chart 1-3) divided by FFS enrollment in Medicare Part A. Spending per beneficiary for physician fee schedule services and outpatient hospital services equals spending for the sector (see Chart 1-3) divided by FFS enrollment in Medicare Part B. Spending per beneficiary for skilled nursing facilities and home health agencies equals spending for those sectors (see Chart 1-3) divided by total FFS enrollment.

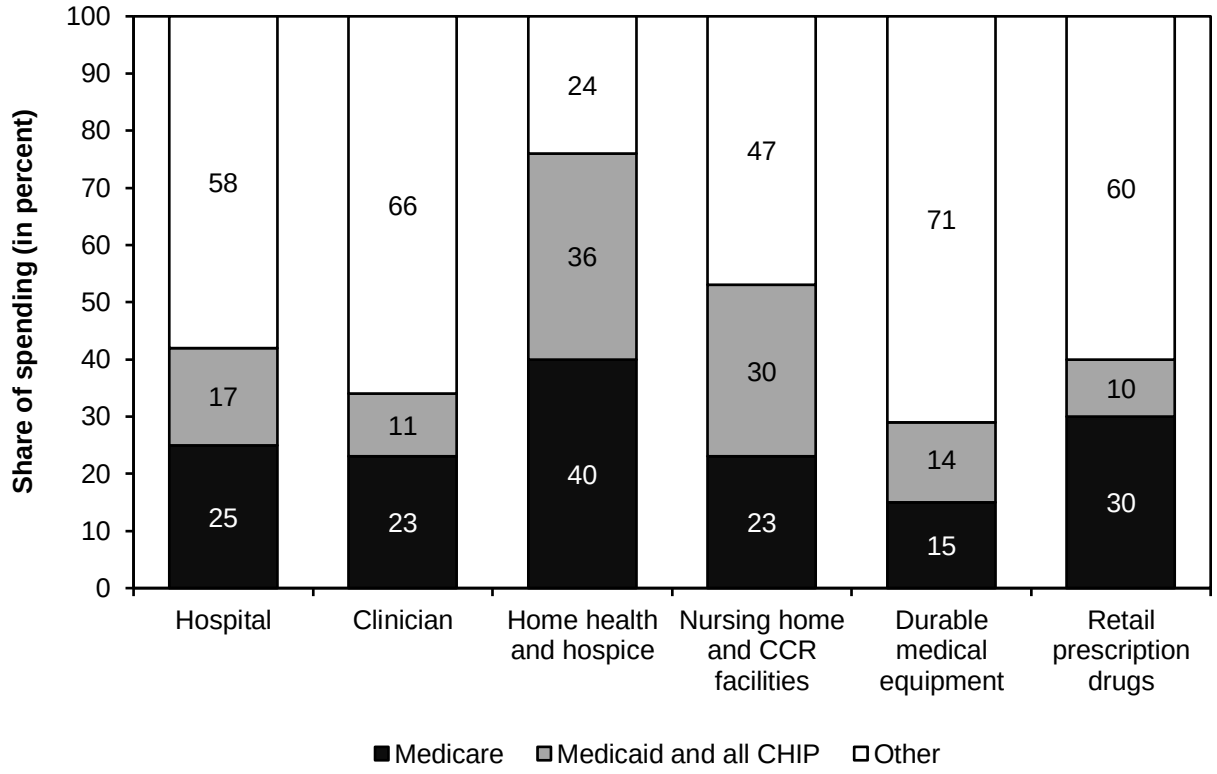
Source: The annual report of the Boards of Trustees of the Medicare trust funds 2019.

- Medicare spending per beneficiary in FFS Medicare has increased substantially since 2010, despite slowing down or declining recently in some sectors.

- Spending per beneficiary for inpatient hospital services, the sector with the highest level of spending, remained relatively stable from 2010 to 2014, fell by 0.9 percent from 2014 to 2015, then increased by 1.5 percent per year on average from 2015 to 2018 (as a result of increased aggregate spending and increased FFS enrollment). Spending per beneficiary for inpatient hospital services increased, in aggregate, 4.0 percent from 2010 to 2018.

- Growth in spending per beneficiary for outpatient hospital services was rapid throughout the period, averaging 8.2 percent per year from 2010 to 2018. Spending per beneficiary for outpatient hospital services increased, in aggregate, 87.4 percent from 2010 to 2018.

Chart 1-5. Medicare's share of spending on personal health care varied by type of service, 2017



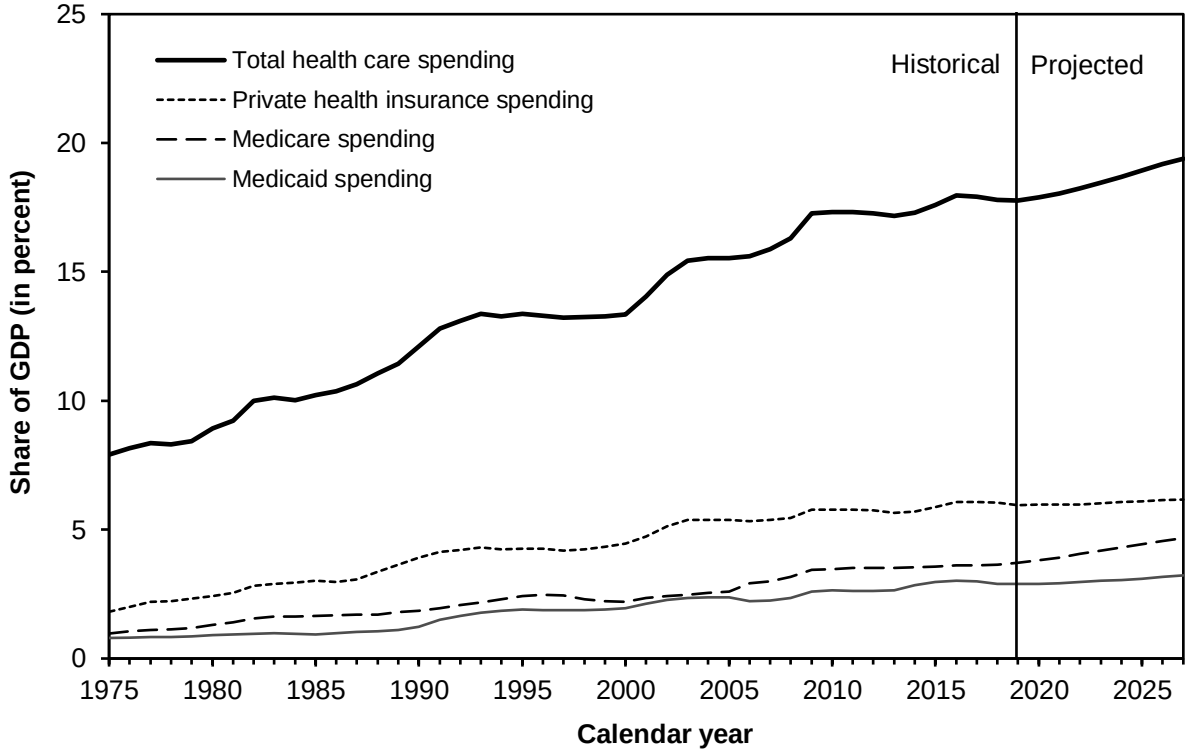
Note: CCR (continuing care retirement), CHIP (Children's Health Insurance Program). "Personal health care" is a subset of national health expenditures. It includes spending for all medical goods and services that are provided for the treatment of an individual and excludes other spending such as government administration, the net cost of health insurance, public health, and investment. "Other" includes private health insurance, out-of-pocket spending, and other private and public spending. Medicare's share of spending is lower for other service categories included in personal health care that are not shown here, namely, other professional services; dental services; other health, residential, and personal care; and other nondurable medical equipment. Bars may not total 100 percent because of rounding.

Source: CMS Office of the Actuary, National Health Expenditure Accounts, historical data released December 2018.

- While Medicare's share of total personal health care spending was 22 percent in 2017 (see Chart 1-1), its share of spending by type of service varied, with a slightly higher share of spending on hospital care (25 percent) and retail prescription drugs (30 percent) and a much higher share of spending on home health and hospice services (40 percent) relative to other types of care.

- Medicare's share of spending on nursing homes and CCR facilities was smaller than Medicaid's share because Medicare pays for nursing home services only for Medicare beneficiaries who require skilled nursing or rehabilitation services, whereas Medicaid pays for custodial care (assistance with activities of daily living) provided in nursing homes for people with limited income and assets.

Chart 1-6. Health care spending growth rates have begun to gradually increase following recent slowdown



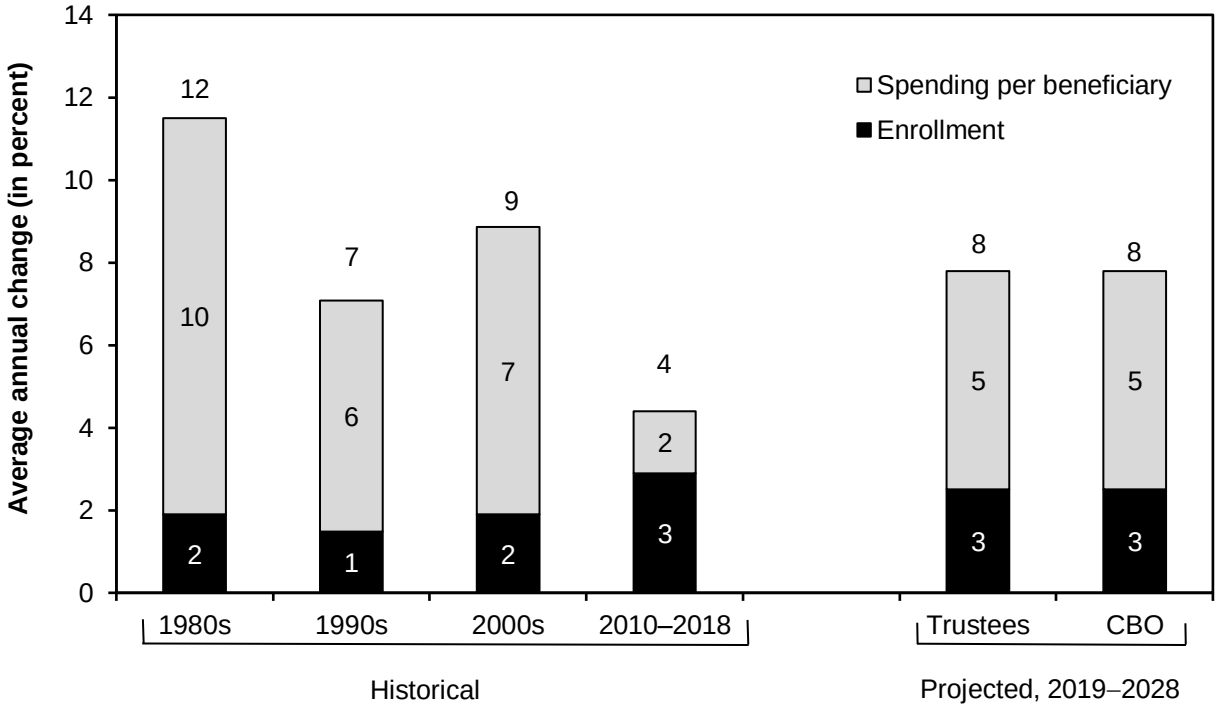
Note: GDP (gross domestic product).

Source: CMS Office of the Actuary, National Health Expenditure Accounts 2019.

- Historically, health care spending has risen as a share of GDP, but in recent years its growth rate slowed. That general trend was true for health care spending by private sector payers as well as by Medicare and Medicaid. As shown in the chart above, health care spending as a share of GDP remained relatively constant between 2009 and 2013. Since then, health care spending as a share of GDP has begun gradually to rise again.

- As a share of GDP, total health care spending more than doubled from 1975 to 2015, increasing from 7.9 percent to 17.6 percent. Private health insurance spending, Medicare spending, and Medicaid all more than tripled over that same time period, increasing from 1.8 percent to 5.9 percent, from 1.0 percent to 3.6 percent, and from 0.8 percent to 3.0 percent, respectively, as a share of GDP.

Chart 1-7. Despite recent slowdown in per beneficiary spending growth, total Medicare spending growth rate is projected to rise



Note: CBO (Congressional Budget Office). Bar totals reflect average annual change in total Medicare spending and may differ from the sum of annual change in spending per beneficiary and Medicare enrollment due to rounding. Trustees data are presented for calendar years. CBO data are presented for fiscal years.

Source: The annual report of the Boards of Trustees of the Medicare trust funds 2019 and the Congressional Budget Office's 2019 Baseline.

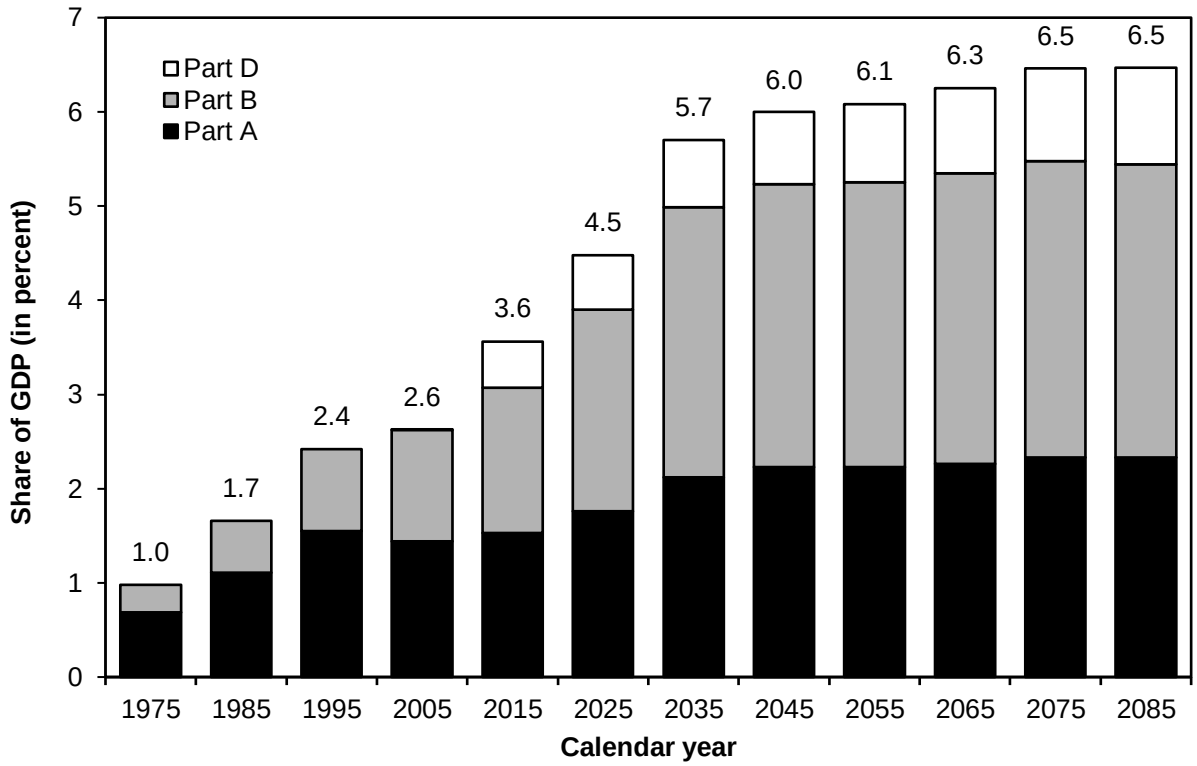
- The growth in Medicare's per beneficiary spending has fallen from average annual rates of 10 percent in the 1980s and 6 percent and 7 percent in the 1990s and 2000s, respectively, to 2 percent between 2010 and 2018.

- For 2019 to 2028, the Trustees and CBO project that growth in per beneficiary spending will be higher than the recent lows but lower than the historical highs, with an average annual growth rate of 5 percent.

- At the same time, the aging of the baby-boom generation is causing enrollment to increase. Over the last few years, the enrollment growth rate rose from about 1 percent to 2 percent per year historically to 3 percent and is projected to continue growing at a similar rate throughout the next decade.

- So, despite the slowdown in spending per beneficiary (relative to historical standards), growth in total spending over the next decade is projected by the Trustees and CBO to average 8 percent annually, which outpaces the projected average annual GDP growth of about 4 percent.

Chart 1-8. Trustees project Medicare spending to continue to increase as a share of GDP



Note: GDP (gross domestic product). Shares for 2025 and later are projections based on the Trustees' intermediate set of assumptions. The Part D benefit began in 2006.

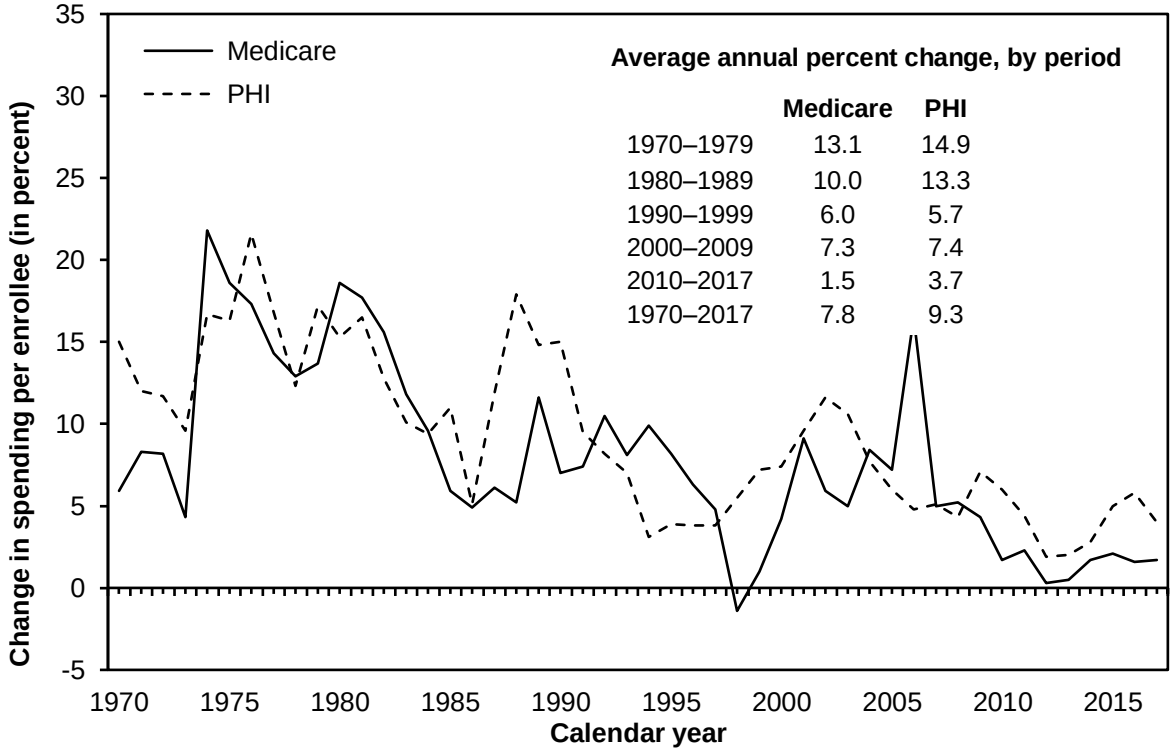
Source: The annual report of the Boards of Trustees of the Medicare trust funds 2019.

- Over time, Medicare spending has accounted for an increasing share of GDP. From 1 percent in 1975, it is projected to reach 6 percent of GDP in 2045.

- The Medicare Trustees project that spending will rise from 3.6 percent of GDP in 2015 to 5.7 percent of GDP by 2035, largely because of rapid growth in the number of beneficiaries, and then to 6.5 percent of GDP by 2075, with growth in spending per beneficiary becoming the greater factor in the later years of the forecast. The rapid growth in the number of beneficiaries began in 2011 and will continue through 2030 as members of the baby-boom generation reach age 65 and become eligible to receive benefits.

- Medicare spending is projected to continue rising as a share of GDP, but at a slower pace than in the past. The Office of the Actuary notes that these projections reflect Part A payment update constraints that were specified by the Patient Protection and Affordable Care Act of 2010 (PPACA) and Part B payment update constraints that were specified by PPACA and the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA).

Chart 1-9. Changes in spending per enrollee, Medicare and private health insurance, 1970–2017



Note: PHI (private health insurance). Medicare expenditures reported in this chart include both fee-for-service and Medicare Advantage plans.

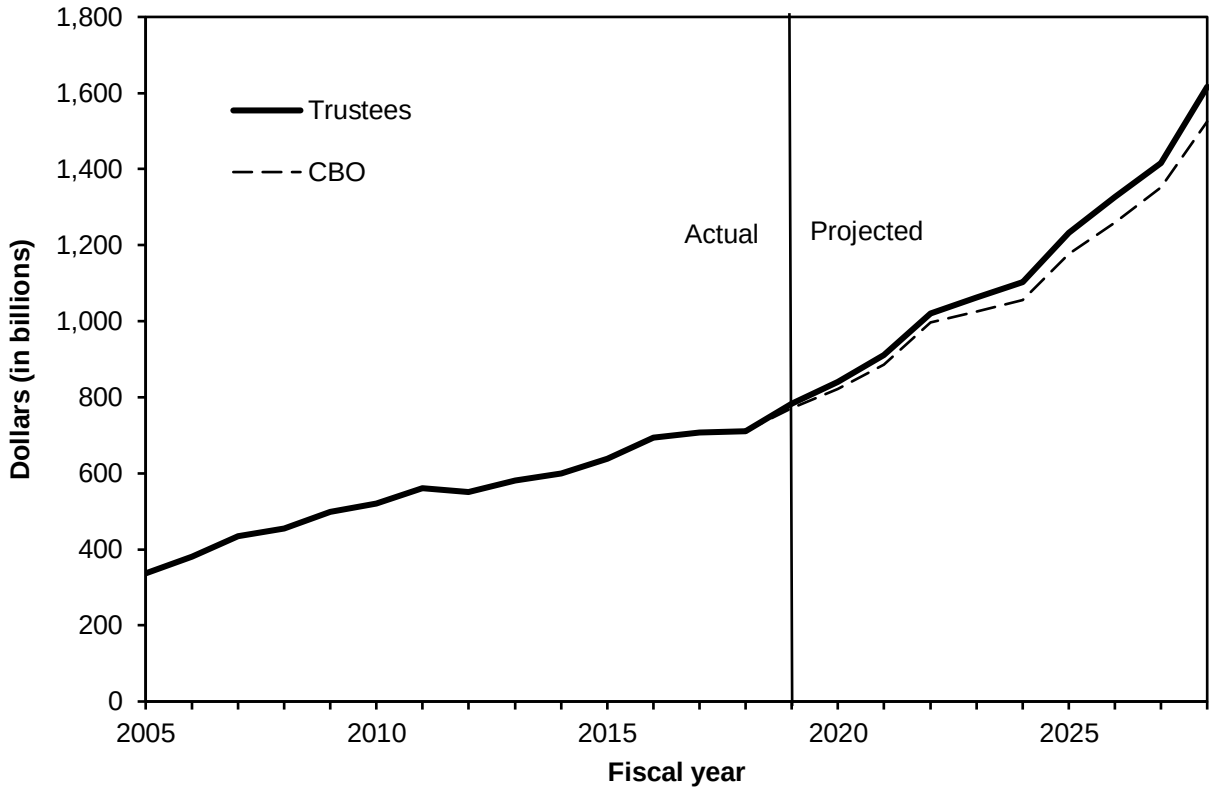
Source: CMS Office of the Actuary, National Health Expenditure Accounts 2013 and 2019.

- Rates of growth in per capita spending for Medicare and private health insurance have followed a similar pattern over the last four decades. For the past several years, rates of growth in per capita spending have been slower for both Medicare and private health insurance than in previous decades.

- Differences between the rates of growth do appear to be somewhat more pronounced since the mid-1980s. Some analysts believe that those differences are attributable to the introduction of the prospective payment system in 1985 for hospital inpatient services. In their view, that payment system has allowed Medicare greater success than private payers in containing spending growth. Others maintain that the differences are due to the expansion of benefits offered by private insurers and to a decline in cost-sharing requirements. More recently, cost-sharing requirements have increased, coinciding with a decline in growth of per capita spending for private payers, followed by a period of growth.

- Comparisons are problematic because private insurers and Medicare do not buy the same mix of services and because Medicare covers an older population, which tends to be more costly. In addition, spending trends are also affected by changes in the generosity of covered benefits (e.g., introduction of Medicare's Part D drug benefit in 2006) and changes in enrollees' out-of-pocket spending.

Chart 1-10. Trustees and CBO project Medicare spending to exceed $1 trillion by the early part of the next decade

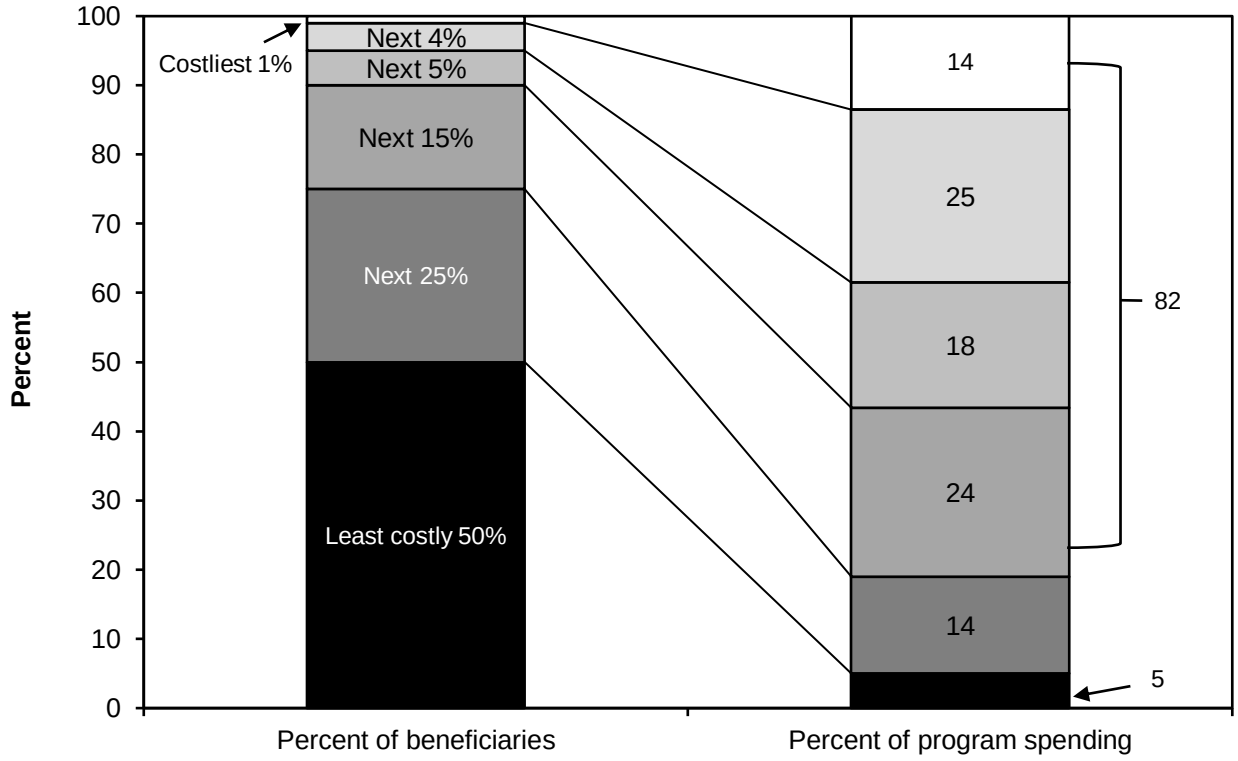


Note: CBO (Congressional Budget Office). All data are nominal, mandatory outlays (benefit payments plus mandatory administrative expenses) by fiscal year.

Source: Congressional Budget Office's May 2019 Baseline; the annual report of the Boards of Trustees of the Medicare trust funds 2019.

- Medicare spending has more than doubled since 2005, increasing from $337 billion to $711 billion by 2018 (these data are by fiscal year and include benefit payments and mandatory administrative expenses).
- The Medicare Trustees and CBO project that spending for Medicare between 2019 and 2028 will grow at an average annual rate of 8.4 percent or 7.9 percent, respectively. Medicare spending will reach $1 trillion in 2022 under the Trustees' projections and in 2023 under CBO's projections.
- Forecasts of future Medicare spending are inherently uncertain, and differences can stem from different assumptions about the economy (which affect annual updates to provider payments) and about growth in the volume and intensity of services delivered to Medicare beneficiaries, among other factors.

Chart 1-11. FFS program spending was highly concentrated in a small group of beneficiaries, 2016



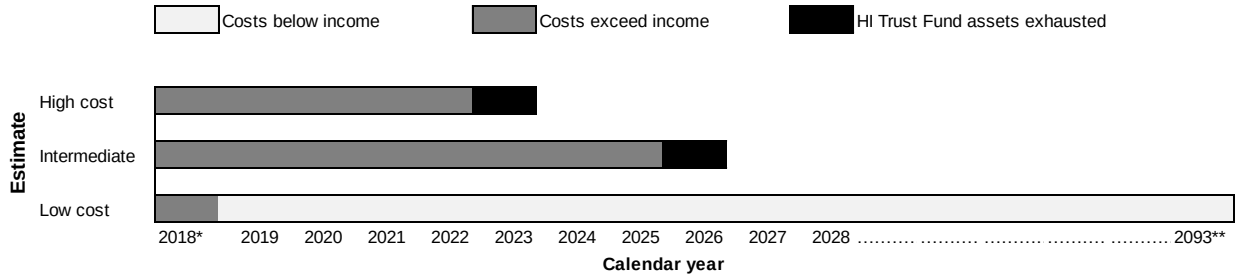
Note: FFS (fee-for-service). Analysis excludes beneficiaries with any group health enrollment during the year. Totals may not sum to 100 percent due to rounding.

Source: Medicare Current Beneficiary Survey, 2018.

- Medicare FFS spending is concentrated among a small number of beneficiaries. In 2016, the costliest 5 percent of beneficiaries accounted for 40 percent of annual Medicare FFS spending (calculated on unrounded numbers), and the costliest 25 percent accounted for 82 percent (calculated on unrounded numbers). By contrast, the least costly 50 percent of beneficiaries accounted for only 5 percent of FFS spending.

- Costly beneficiaries tend to include those who have multiple chronic conditions, are using inpatient hospital services, are dually eligible for Medicare and Medicaid, and are in the last year of life.

Chart 1-12. Medicare HI Trust Fund is projected to be insolvent in 2026 under Trustees' intermediate assumptions



Note: HI (Hospital Insurance). The primary source of income for HI is the payroll tax on covered earnings. Other HI income sources include (a) a portion of the federal income taxes that Social Security recipients with incomes above certain thresholds pay on their benefits and (b) interest paid on the U.S. Treasury securities held in the HI Trust Fund.
*Costs and income for 2018 represent actual (not projected) experience.
**Under the low-cost assumption, HI Trust Fund costs would be below income through the 75-year projection period ending in 2093.

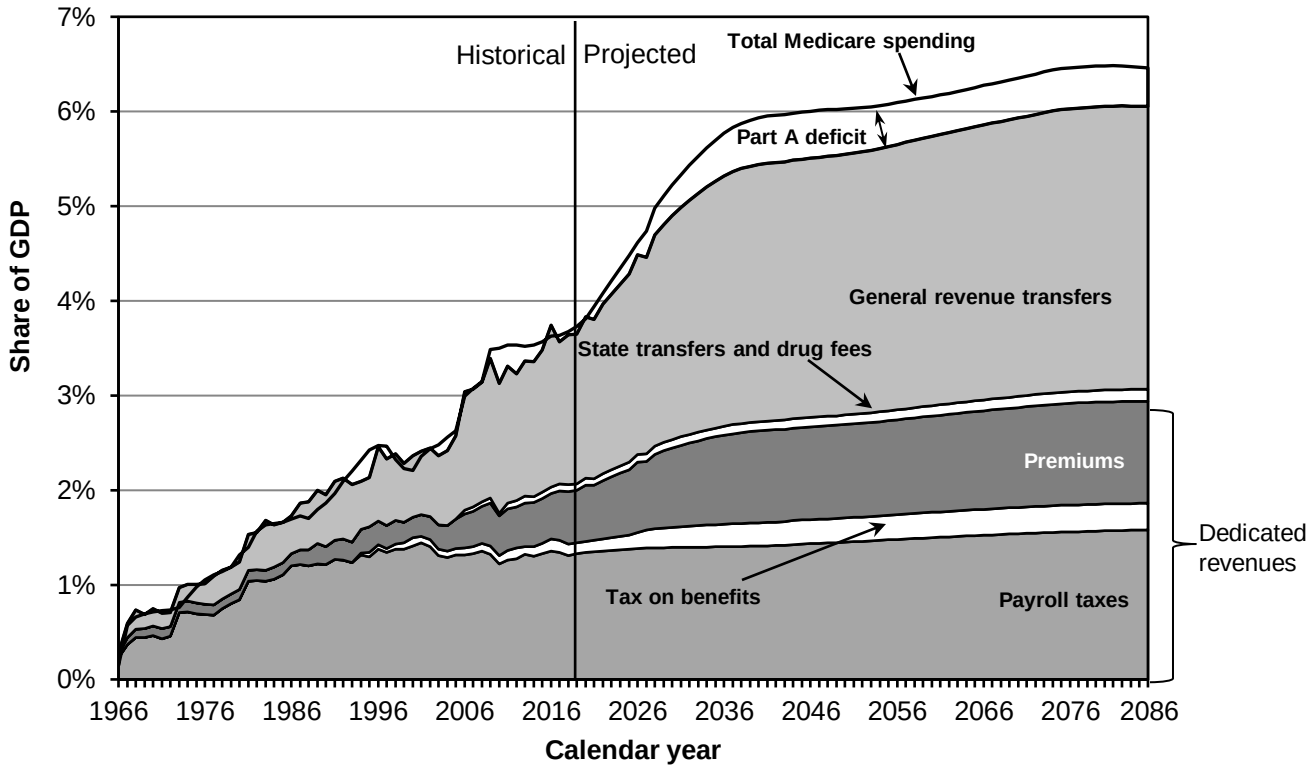
Source: The annual report of the Boards of Trustees of the Medicare trust funds 2019.

- The HI Trust Fund funds Part A, which helps pay for inpatient hospital stays and post-acute care such as that provided by skilled nursing facilities and hospice. Part A is funded through a dedicated payroll tax (i.e., a tax on wage earnings).

- From 2008 to 2015, the HI Trust Fund ran an annual deficit (i.e., paid more in benefits than it collected in payroll taxes). In 2016 and 2017, the HI Trust Fund ran a surplus. However, a deficit returned in 2018, and both intermediate- and high-cost assumptions project that deficits will continue until HI Trust Fund assets are exhausted. HI Trust Fund assets are projected to be exhausted by 2026 under the Trustees' intermediate assumptions. Under high-cost assumptions, the HI Trust Fund could be exhausted as early as 2023. Under low-cost assumptions, it would remain able to pay full benefits indefinitely.

- The Trustees estimate that the payroll tax would need to be immediately increased from its current rate of 2.90 percent to 3.81 percent to balance the HI Trust Fund over the next 75 years. Alternatively, Part A spending would need to be immediately reduced by 19 percent.

Chart 1-13. General revenue is paying for a growing share of Medicare spending



Note: GDP (gross domestic product). These projections are based on the Trustees' intermediate set of assumptions. "Tax on benefits" refers to the portion of income taxes that higher income individuals pay on Social Security benefits, which is designated for Medicare. "State transfers" (often called the Part D "clawback") refers to payments called for within the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 from the states to Medicare for assuming primary responsibility for prescription drug spending. "Drug fees" refer to the fee imposed by the Patient Protection and Affordable Care Act of 2010 on manufacturers and importers of brand-name prescription drugs. These fees are deposited in the Part B account of the Supplementary Medical Insurance Trust Fund.

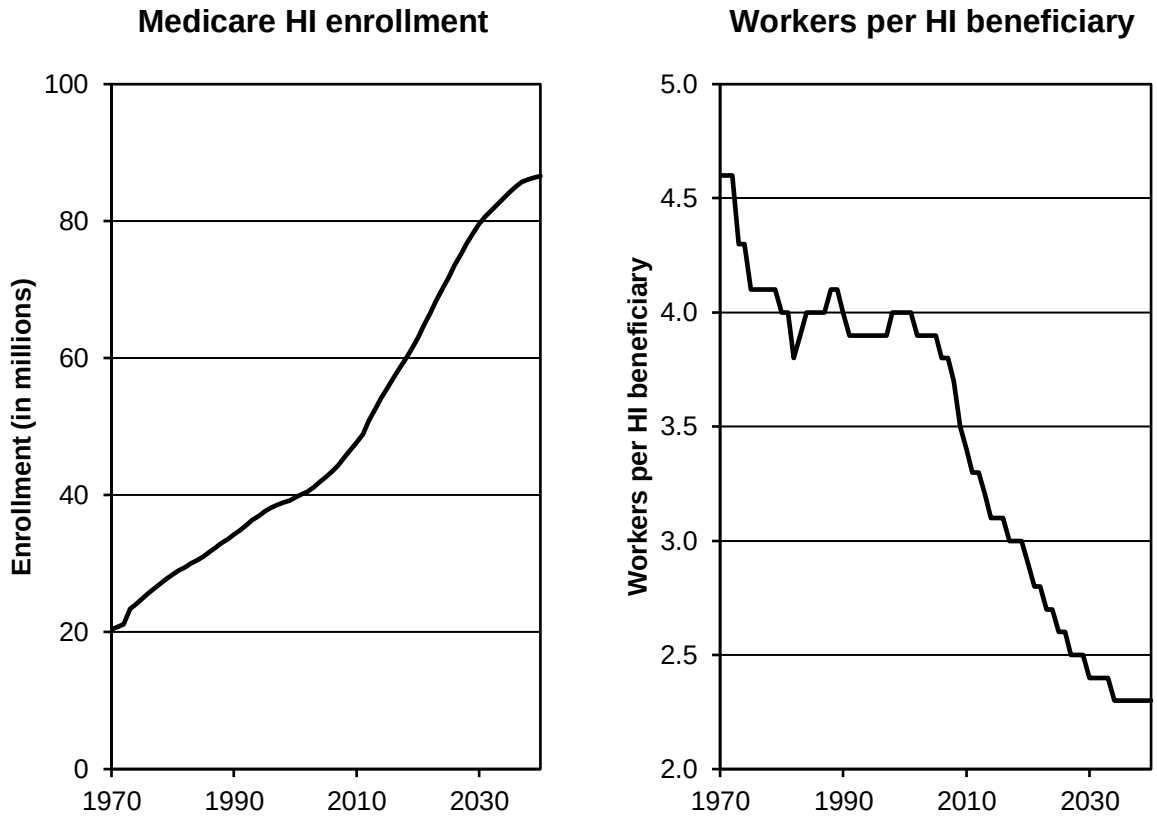
Source: The annual report of the Boards of Trustees of the Medicare trust funds 2019.

- The Medicare Trustees project that Medicare's share of GDP will rise to 5.5 percent by 2033 and to 5.9 percent by 2038.

- Beginning in 2009, general revenue transfers became the largest single source of Medicare income. General revenue transfers to the Part B account increased significantly in 2016, as required by the Bipartisan Budget Act of 2015 to compensate for premium revenue that was not received in 2016 due to the hold-harmless provision, which limited the Part B premium increase for a majority of beneficiaries. They are expected to continue to be a substantial share of Medicare financing, growing to about 49 percent by 2032, and then remaining stable throughout the 75-year budget period.

- As Medicare becomes more dependent on general revenues, fewer resources will be available to invest in growing the economic output of the future or in supporting other national priorities.

Chart 1-14. Medicare enrollment is rising while the number of workers per HI beneficiary is declining



Note: HI (Hospital Insurance). Hospital Insurance is also known as Medicare Part A.

Source: The annual report of the Boards of Trustees of the Medicare trust funds 2019.

- As the baby-boom generation ages, enrollment in the Medicare program is surging. By 2031, Medicare is projected to have over 80 million beneficiaries—up from 61 million beneficiaries today.
- While Medicare enrollment is rising, the number of workers per beneficiary is rapidly declining. Workers pay for Medicare spending through payroll taxes and income taxes. However, the number of workers per Medicare beneficiary declined from 4.6 during the early years of the program to 3.0 today and is projected by the Medicare Trustees to fall to 2.5 by 2027.
- These demographics threaten the financial stability of the Medicare program.

Chart 1-15. Medicare HI and SMI benefits and cost sharing per FFS beneficiary, 2017

	Average benefit in 2017 (in dollars)	Average cost sharing in 2017 (in dollars)
HI (Part A)	$4,905	$422
SMI (Part B, excludes Part D)	5,628	1,440

Note: HI (Hospital Insurance), SMI (Supplementary Medical Insurance), FFS (fee-for-service). Dollar amounts are nominal for FFS Medicare only and do not include Part D. "Average benefit" represents amounts paid for covered services per FFS beneficiary and excludes administrative expenses. "Average cost sharing" represents the sum of deductibles, coinsurance, and balance billing paid for covered services per FFS beneficiary and excludes all monthly premiums.

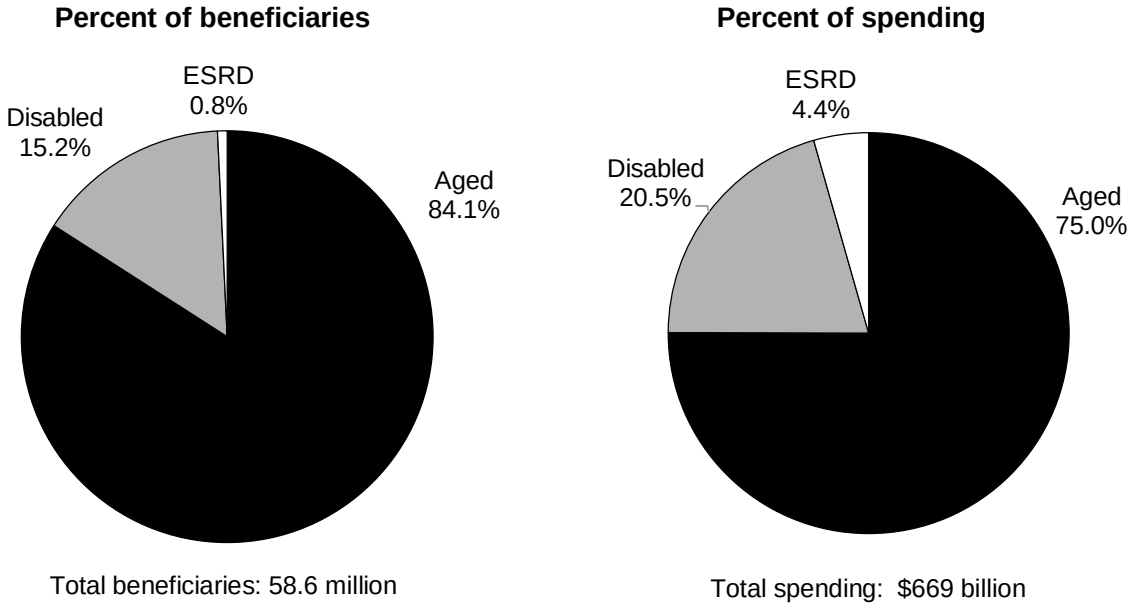
Source: CMS Program Statistics, CMS Office of Enterprise Data and Analytics, CMS Chronic Conditions Data Warehouse.

- In calendar year 2017, the Medicare program made $4,905 in HI (Part A) benefit payments and $5,628 in SMI (Part B) benefit payments on average per FFS beneficiary.
- Beneficiaries owed an average of $422 in cost sharing for HI and $1,440 in cost sharing for SMI in calendar year 2017. (Cost sharing excludes all monthly premiums.)
- To cover some of those cost-sharing requirements, about 90 percent of beneficiaries have coverage that supplements or replaces the Medicare benefit package, such as Medicare Advantage, Medicaid, supplemental coverage through former employers, and Medigap coverage.

SECTION 2

Medicare beneficiary demographics

Chart 2-1. Aged beneficiaries accounted for the greatest share of the Medicare population and program spending, 2016



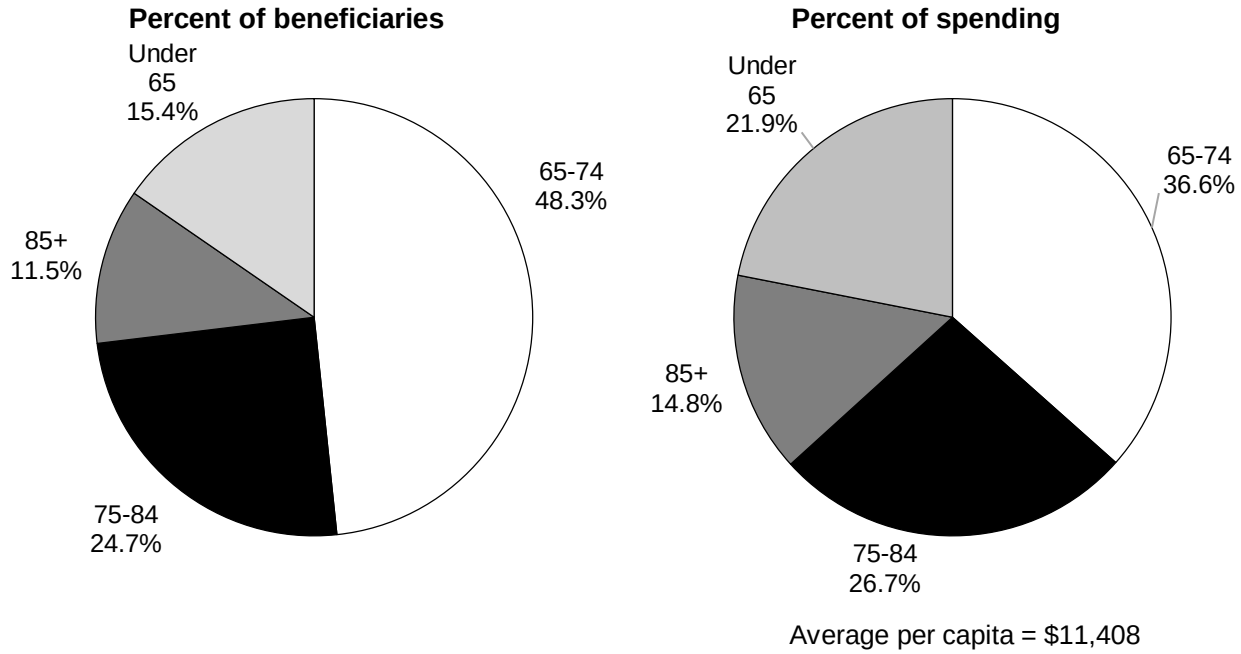
Note: ESRD (end-stage renal disease). The "aged" category includes beneficiaries ages 65 and older without ESRD. The "disabled" category includes beneficiaries under age 65 without ESRD. The "ESRD" category includes beneficiaries with ESRD, regardless of age. Results include fee-for-service, Medicare Advantage, community-dwelling, and institutionalized beneficiaries. Totals may not sum to 100 percent due to rounding.

Source: MedPAC analysis of the Medicare Current Beneficiary Survey, Cost and Use file 2016.

- In 2016, beneficiaries ages 65 and older without ESRD composed 84.1 percent of the beneficiary population and accounted for 75.0 percent of Medicare spending. Beneficiaries under 65 with a disability and beneficiaries with ESRD accounted for the remaining population and spending.

- A disproportionate share of Medicare expenditures is devoted to Medicare beneficiaries with ESRD. On average, these beneficiaries incur spending that is more than six times greater than spending for aged beneficiaries (ages 65 years and older without ESRD) and more than four times greater than spending for beneficiaries under age 65 with disability (non-ESRD). In 2016, $67,116 was spent per ESRD beneficiary versus $10,182 per aged beneficiary and $15,437 per beneficiary under age 65 enrolled because of disability (data not shown).

Chart 2-2. Beneficiaries younger than 65 accounted for a disproportionate share of Medicare spending, 2016

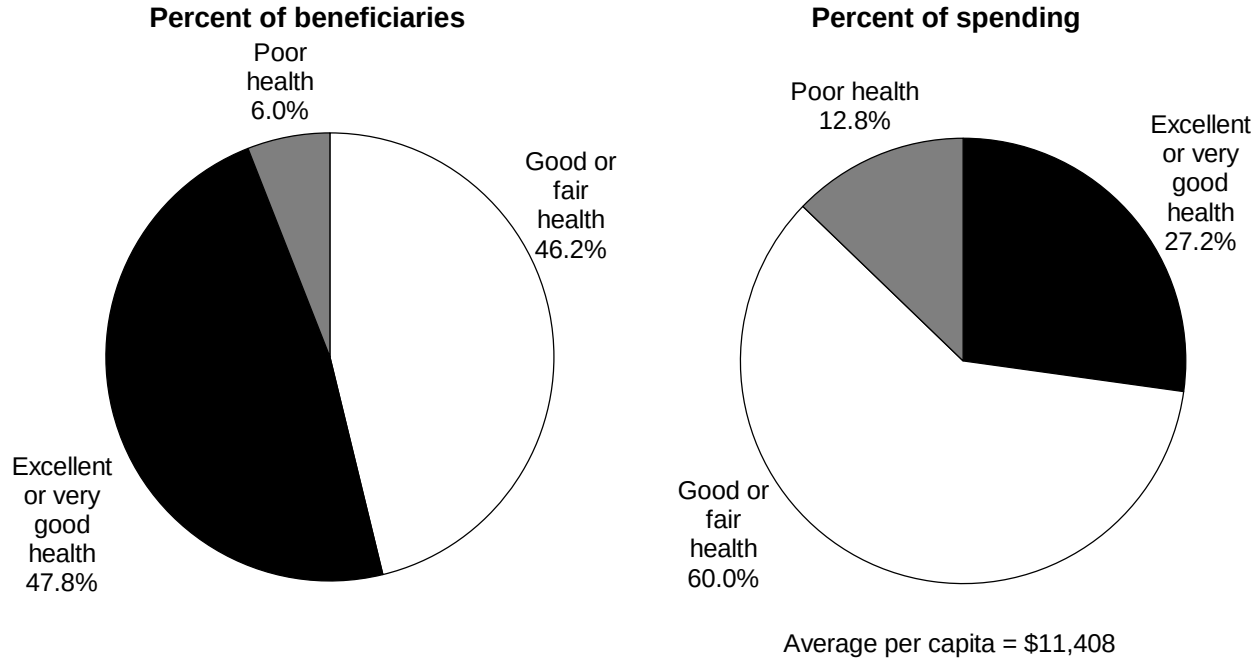


Note: Results include fee-for-service, Medicare Advantage, community-dwelling, and institutionalized beneficiaries. Totals may not sum to 100 percent due to rounding.

Source: MedPAC analysis of the Medicare Current Beneficiary Survey, Cost and Use file 2016.

- Beneficiaries younger than 65 made up 15.4 percent of the beneficiary population in 2016 but accounted for 21.9 percent of Medicare spending.
- In 2016, average Medicare spending per beneficiary was $11,408.
- For the aged population (65 and older), per capita expenditures increase with age. In 2016, per capita expenditures were $8,631 for beneficiaries 65 to 74 years old, $12,305 for those 75 to 84 years old, and $14,676 for those 85 or older (data not shown).
- In 2016, per capita expenditures for Medicare beneficiaries under age 65 who were enrolled because of end-stage renal disease or disability were $16,238 (data not shown).

Chart 2-3. Beneficiaries who reported being in poor health accounted for a disproportionate share of Medicare spending, 2016

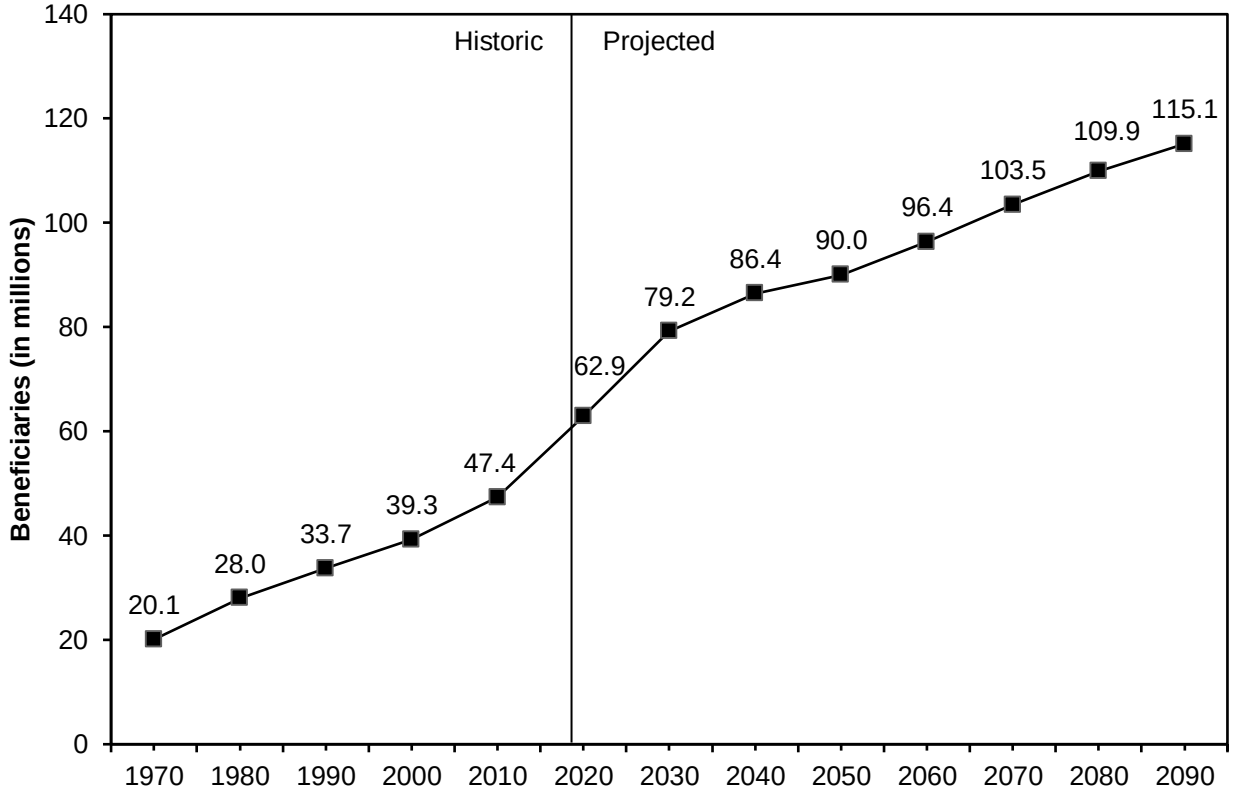


Note: Results include fee-for-service, Medicare Advantage, community-dwelling, and institutionalized beneficiaries. Totals may not sum to 100 percent due to rounding and exclusion of an "other" category.

Source: MedPAC analysis of the Medicare Current Beneficiary Survey, Cost and Use file 2016.

- In 2016, most beneficiaries reported fair to excellent health. Only 6 percent reported poor health.
- Medicare spending is strongly associated with self-reported health status. In 2016, per capita expenditures were $6,418 for those who reported excellent or very good health, $13,675 for those who reported good or fair health, and $23,393 for those who reported poor health (data not shown).

Chart 2-4. Enrollment in the Medicare program is projected to grow rapidly through 2030



Note: Enrollment numbers are based on Part A enrollment only. Beneficiaries enrolled only in Part B are not included.

Source: The annual report of the Boards of Trustees of the Medicare trust funds 2019.

- The total number of people enrolled in the Medicare program will increase from about 60 million in 2018 to about 79 million in 2030.
- The rate of increase in Medicare enrollment will accelerate until 2030 as more members of the baby-boom generation become eligible, at which point it will continue to increase, but more slowly, after the entire baby-boom generation has become eligible.

Chart 2-5. Characteristics of the Medicare population, 2016

Characteristic	Percent of the Medicare population	Characteristic	Percent of the Medicare population
Total (53.7 million)	100%	**Living arrangement**	
		Institution	3%
Sex		Alone	28
Male	45	With spouse	49
Female	55	Other	20
Race/ethnicity		**Education**	
White, non-Hispanic	75	No high school diploma	17
African American, non-Hispanic	10	High school diploma only	27
Hispanic	9	Some college or more	54
Other	7		
		Income status	
Age		Below poverty	15
<65	16	100–125% of poverty	7
65–74	47	125–200% of poverty	17
75–84	26	200–400% of poverty	28
85+	11	Over 400% of poverty	32
		Supplemental insurance status	
Health status		Medicare only	14
Excellent or very good	45	Managed care	35
Good or fair	48	Employer-sponsored insurance	22
Poor	7	Medigap	16
		Medigap with employer-sponsored insurance	1
Residence			
Urban	80	Medicaid	12
Rural	20	Other	1

Note: Age and health status values may slightly differ from previous figures, because only beneficiaries with complete characteristic data were included in this analysis. Totals may not sum to 100 percent due to rounding and exclusion of an "other" category. "Urban" indicates beneficiaries living in metropolitan statistical areas (MSAs). "Rural" indicates beneficiaries living outside MSAs. In 2016, poverty was defined as income of $11,511 for people living alone and $14,522 for married couples. Poverty thresholds are calculated by the U.S. Census Bureau (https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html). Some beneficiaries may have more than one type of supplemental insurance.

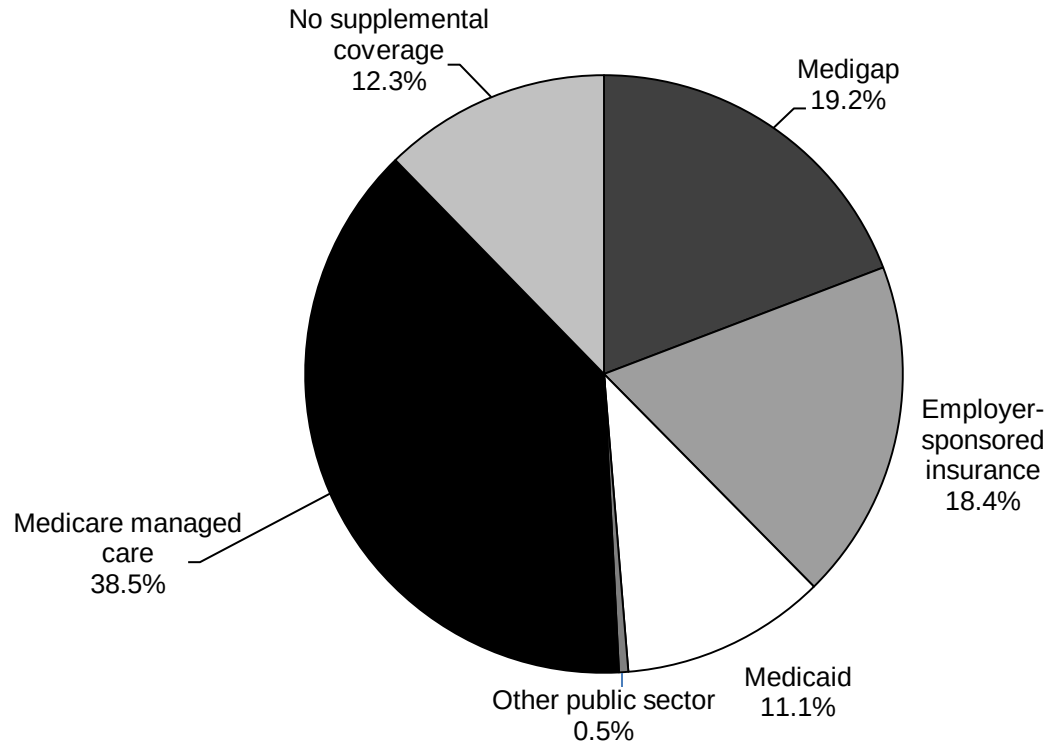
Source: MedPAC analysis of the Medicare Current Beneficiary Survey, Cost and Use file 2016.

- Most Medicare beneficiaries are female and White.
- About one-fifth of beneficiaries live in rural areas.
- Twenty-eight percent of the Medicare population lives alone.
- Seventeen percent of beneficiaries do not have a high school diploma.
- Most Medicare beneficiaries have some source of supplemental insurance. Managed care plans are the most common source of supplemental coverage.

SECTION 3

Medicare beneficiary and other payer financial liability

Chart 3-1. Sources of supplemental coverage among noninstitutionalized Medicare beneficiaries, 2016



Note: Beneficiaries are assigned to the supplemental coverage category they were in for the most time in 2016. They could have had coverage in other categories during 2016. "Other public sector" includes federal and state programs not included in other categories. Analysis includes only beneficiaries not living in institutions such as nursing homes. It excludes beneficiaries who were not in both Part A and Part B throughout their enrollment in 2016 or who had Medicare as a secondary payer.

Source: MedPAC analysis of Medicare Current Beneficiary Survey, Survey file 2016.

- Most beneficiaries living in the community (noninstitutionalized) have coverage that supplements or replaces the Medicare benefit package. In 2016, 88 percent of beneficiaries had supplemental coverage or participated in Medicare managed care.
- About 38 percent of beneficiaries had private sector supplemental coverage such as Medigap (about 19 percent) or employer-sponsored retiree coverage (about 18 percent).
- About 12 percent of beneficiaries had public sector supplemental coverage, primarily Medicaid.
- About 39 percent of beneficiaries participated in Medicare managed care. This care includes Medicare Advantage, health care prepayment, and cost plans. These types of arrangements generally replace Medicare's fee-for-service coverage and often add more coverage.
- The numbers in this chart differ from those in Chart 2-5, Chart 4-1, and Chart 4-4 because of differences in the populations represented in the charts. This chart excludes beneficiaries in long-term care institutions, while Chart 2-5 and Chart 4-4 include all Medicare beneficiaries, and Chart 4-1 excludes beneficiaries in Medicare Advantage.

Chart 3-2. Sources of supplemental coverage among noninstitutionalized Medicare beneficiaries, by beneficiaries' characteristics, 2016

	Number of beneficiaries (thousands)	Employer-sponsored insurance	Medigap insurance	Medicaid	Medicare managed care	Other public sector	Medicare only
All beneficiaries	**47,002**	**18%**	**19%**	**11%**	**39%**	**1%**	**12%**
Age							
<65	7,093	5	4	38	34	1	17
65–69	10,937	18	20	7	41	0	14
70–74	10,823	20	23	6	40	1	10
75–79	7,684	22	22	6	41	0	10
80–84	5,314	25	21	6	37	0	10
85+	5,151	22	23	7	35	1	12
Income-to-poverty ratio							
≤1.00	7,801	4	7	41	36	0	11
1.00 to 1.25	3,687	7	10	28	40	1	14
1.25 to 1.50	3,306	9	17	14	46	1	13
1.50 to 2.00	5,559	13	20	5	44	1	17
>2.00	26,649	26	24	1	37	0	12
Eligibility status							
Aged	39,677	21	22	6	39	0	11
Disabled	6,968	5	4	38	34	1	17
ESRD	357	16	23	16	19	3	22
Residence							
Urban	37,241	18	18	10	42	0	11
Rural	9,755	19	25	14	25	1	16
Sex							
Male	20,950	19	18	10	37	1	15
Female	26,052	18	20	12	40	0	10
Health status							
Excellent/very good	21,341	22	22	5	39	0	11
Good/fair	22,274	16	17	15	38	0	13
Poor	3,167	8	12	28	36	1	15

Note: ESRD (end-stage renal disease). Beneficiaries are assigned to the supplemental coverage category they were in for the most time in 2016. They could have had coverage in other categories during 2016. "Medicare managed care" includes Medicare Advantage, cost, and health care prepayment plans. "Other public sector" includes federal and state programs not included in other categories. "Urban" indicates beneficiaries living in metropolitan statistical areas (MSAs) as indicated by core-based statistical areas. "Rural" indicates beneficiaries living outside MSAs, which includes both micropolitan statistical areas and rural areas as indicated by core-based statistical areas. Analysis excludes beneficiaries living in institutions such as nursing homes. It excludes beneficiaries who were not in both Part A and Part B throughout their enrollment in 2016 or who had Medicare as a secondary payer. The number of beneficiaries differs among boldface categories because we excluded beneficiaries with missing values. Numbers in some rows do not sum to 100 percent because of rounding.

Source: MedPAC analysis of Medicare Current Beneficiary Survey, Survey file 2016.

- Beneficiaries most likely to have employer-sponsored supplemental coverage are those who are age 65 or older, have income above twice the poverty level, are eligible because of age, and report better than poor health.
- Medigap is most common among those who are age 65 or older, have income higher than 1.25 times the poverty level, are eligible because of age, are rural dwelling, and report better than poor health.
- Medicaid coverage is most common among those who are under age 65, have income lower than 1.5 times the poverty level, are eligible because of disability or ESRD, are rural dwelling, and report poor health.
- Lack of supplemental coverage (Medicare coverage only) is most common among beneficiaries who are under age 65, are eligible because of disability or ESRD, are rural dwelling, are male, and report poor health.

Chart 3-3. Covered benefits and enrollment in standardized Medigap plans, 2018

	Medigap standardized plan type										
Benefit	A	B	C	D	F	High deductible F	G	K	L	M	N
Part A hospital costs	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Part B cost sharing	✓	✓	✓	✓	✓	✓	✓	50%	75%	✓	$20/$50
Blood (first 3 pints)	✓	✓	✓	✓	✓	✓	✓	50%	75%	✓	✓
Hospice cost sharing	✓	✓	✓	✓	✓	✓	✓	50%	75%	✓	✓
SNF coinsurance			✓	✓	✓	✓	✓	50%	75%	✓	✓
Part A deductible		✓	✓	✓	✓	✓	✓	50%	75%	50%	✓
Part B deductible			✓		✓	✓					
Part B excess charges					✓	✓	✓				
Foreign travel emergency			✓	✓	✓	✓	✓			✓	✓
Lives covered (in thousands)	125	225	700	150	6,750	275	2,300	75	50	5	1,350
Percent change 2016–2018	–20%	–17%	–21%	–18%	1%	18%	82%	8%	0%	–13%	17%

Note: SNF (skilled nursing facility). Three states (Massachusetts, Minnesota, and Wisconsin) have different plan types and are not included in this chart. The ✓ indicates that the plan covers all cost sharing. Percentages indicate that the plan covers that share of the total cost sharing. The $20/$50 indicates that the plan covers all but $20 for physician office visits and all but $50 for emergency room visits.

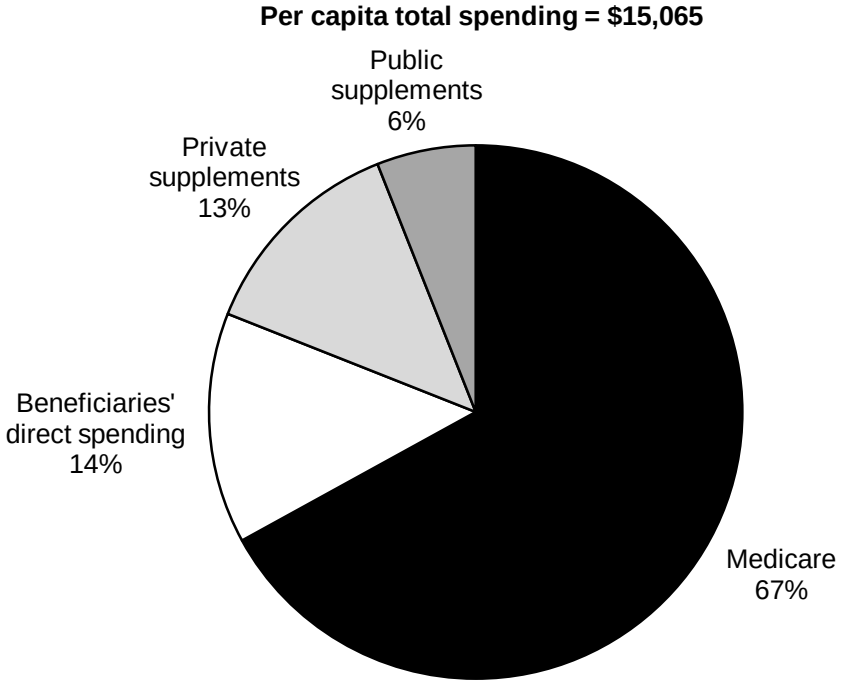
Source: MedPAC analysis of National Association of Insurance Commissioners data, 2019.

- Medicare beneficiaries purchase Medigap plans, also known as Medicare supplementary insurance plans, to cover fee-for-service Medicare cost sharing. Statute specifies 11 standardized plans. States enforce the standards based on model regulations developed by the National Association of Insurance Commissioners (NAIC). Three states (Massachusetts, Minnesota, and Wisconsin) have waivers from these standards and have different standard plan types not included in this chart.

- Plan F, which covers all Medicare cost sharing, is the most popular plan, with 6.8 million enrollees. However, because Congress was concerned about the overutilization of Medicare services, legislation will prohibit the sale of new Plan F policies beginning in 2020. As a result, insurers have begun to direct beneficiaries into other plan types, namely plans G, K, and N, which do not cover the Part B deductible.

- During 2018, almost 14 million beneficiaries enrolled in Medigap plans (including those in Massachusetts, Minnesota, and Wisconsin). Of all Medicare beneficiaries, about one-fifth were enrolled in Medigap plans.

Chart 3-4. Total spending on health care services for noninstitutionalized FFS Medicare beneficiaries, by source of payment, 2016



Note: FFS (fee-for-service). "Private supplements" includes employer-sponsored plans and individually purchased coverage. "Public supplements" includes Medicaid, Department of Veterans Affairs, and other public coverage. "Beneficiaries' direct spending" is on Medicare cost sharing and noncovered services, but not supplemental premiums. Analysis includes only FFS beneficiaries not living in institutions such as nursing homes. We excluded Medicare Advantage enrollees.

Source: MedPAC analysis of Medicare Current Beneficiary Survey, Cost Supplement file, 2016.

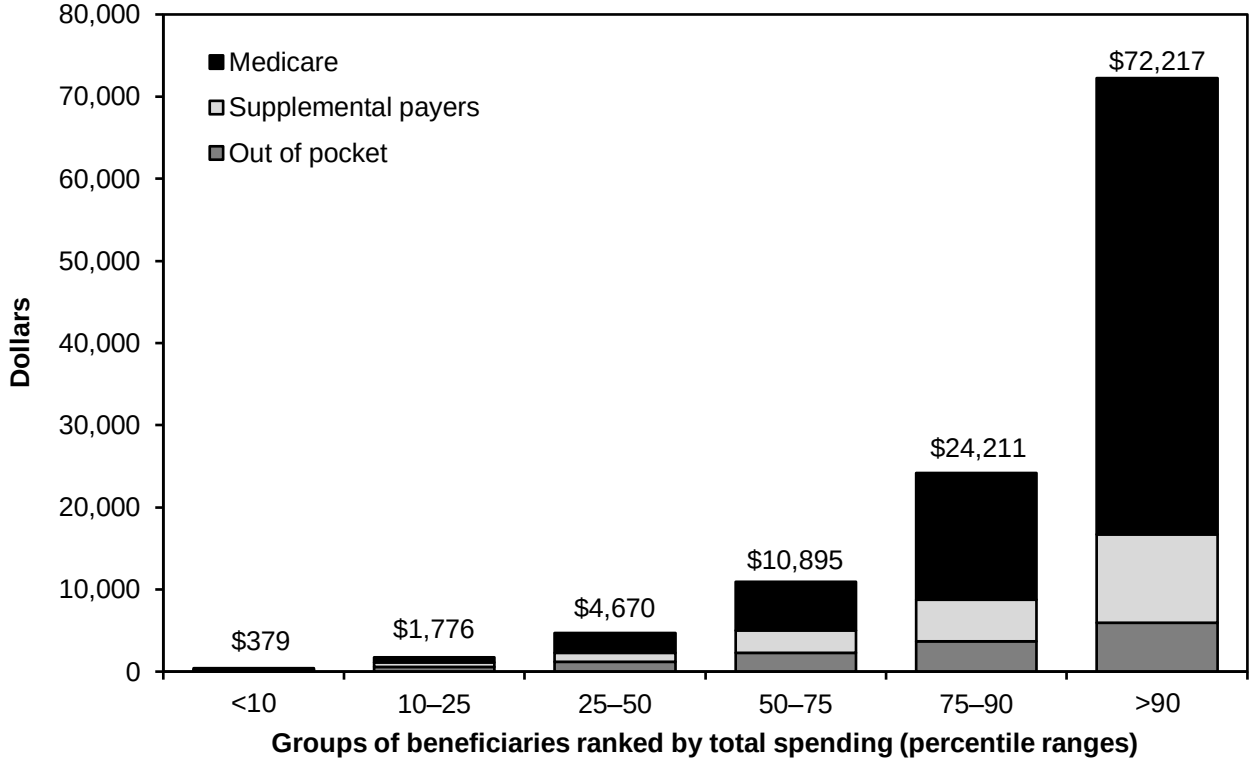
- Among FFS beneficiaries living in the community (noninstitutionalized), the total cost of health care services (beneficiaries' direct spending as well as expenditures by Medicare, other public sector sources, and all private sector sources on all health care goods and services) averaged about $15,000 in 2016. Medicare was the largest source of payment: It paid about 67 percent of the health care costs for FFS beneficiaries living in the community, an average of $10,063 per beneficiary. The level of Medicare spending in this chart differs from the level in Chart 2-1 because this chart excludes beneficiaries in Medicare Advantage and those living in institutions, while Chart 2-1 represents all Medicare beneficiaries.

- Private sources of supplemental coverage—primarily employer-sponsored retiree coverage and Medigap—paid about 13 percent of beneficiaries' costs, an average of $1,998 per beneficiary.

- Beneficiaries paid about 14 percent of their health care costs out of pocket, an average of $2,137 per beneficiary.

- Public sources of supplemental coverage—primarily Medicaid—paid about 6 percent of beneficiaries' health care costs, an average of $867 per beneficiary.

Chart 3-5. Per capita total spending on health care services among noninstitutionalized FFS beneficiaries, by source of payment, 2016



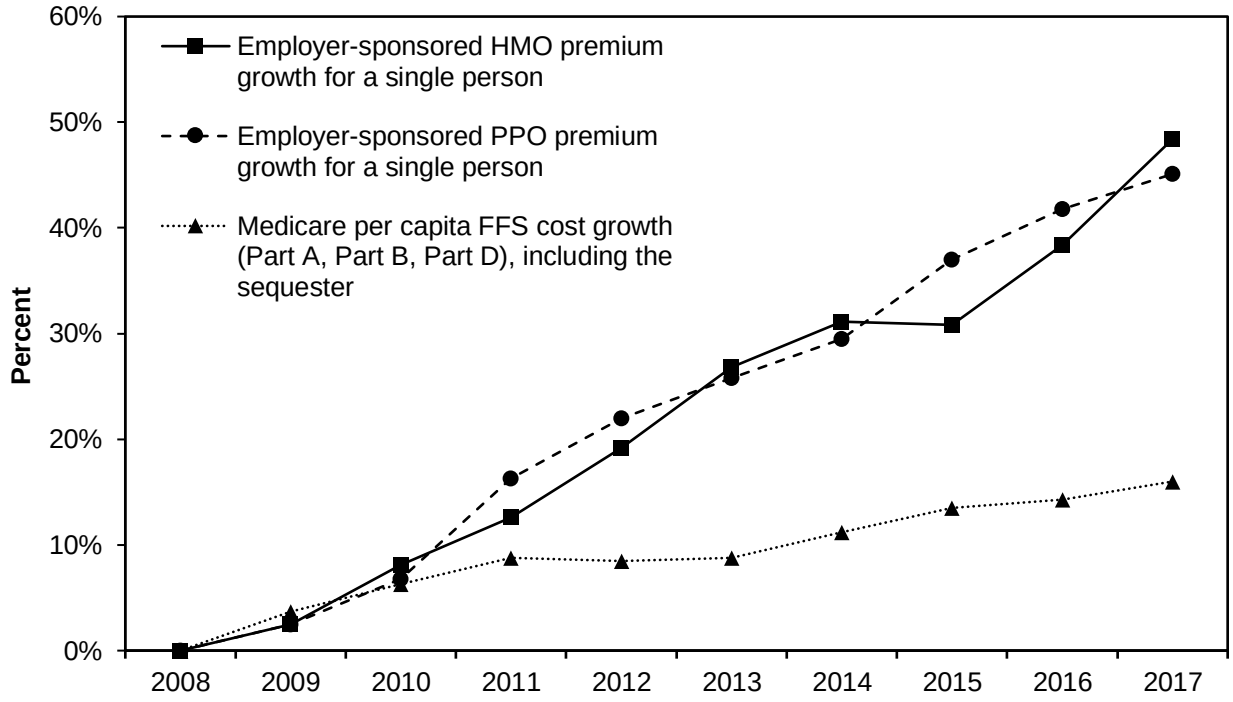
Note: FFS (fee-for-service). Analysis excludes those who are not in FFS Medicare and those living in institutions such as nursing homes. "Out-of-pocket" spending includes Medicare cost sharing and noncovered services, but not supplemental premiums.

Source: MedPAC analysis of the Medicare Current Beneficiary Survey, Cost Supplement file, 2016.

- Total spending on health care services varied dramatically among FFS beneficiaries living in the community in 2016. Per capita spending for the 10 percent of beneficiaries with the highest total spending averaged $72,217. Per capita spending for the 10 percent of beneficiaries with the lowest total spending averaged $379.

- Among FFS beneficiaries living in the community, Medicare paid a larger share as total spending increased, and beneficiaries' out-of-pocket spending was a smaller share as total spending increased. For example, Medicare paid 67 percent of total spending for all beneficiaries, but paid 77 percent of total spending for the 10 percent of beneficiaries with the highest total spending. Beneficiaries' out-of-pocket spending covered 14 percent of total spending for all beneficiaries, but only 8 percent of total spending for the 10 percent of beneficiaries with the highest total spending (data not shown).

Chart 3-6. Cost of employer-sponsored commercial insurance has grown more than twice as fast as Medicare costs



Note: HMO (health maintenance organization), PPO (preferred provider organization), FFS (fee-for-service). Medicare spending is reported including the effects of the sequester that began in March 2013, which reduced program spending by 2 percent.

Source: Employer-sponsored premium data are from Kaiser Family Foundation surveys, 2008 through 2017. Medicare spending figures are from Part A and Part B program spending data from CMS actuaries; Part D spending per capita figures through 2016 are from MedPAC analysis of claims and reinsurance data for individuals with Part D coverage. Part D spending for 2017 is a projection.

- Medicare costs have risen more slowly than commercial insurance premiums in part due to slower price growth for Medicare services.

- Per capita costs in FFS Medicare grew by 16 percent from 2008 to 2017. This 16 percent growth rate is the cumulative growth in the CMS actuaries' estimated cost of Part A and Part B benefits and the Commission's estimates of the cost of Part D premiums and reinsurance from 2008 to 2017. The Medicare FFS growth rate also was not adjusted for enhancements of the Part D benefit that included a shrinking of the coverage gap.

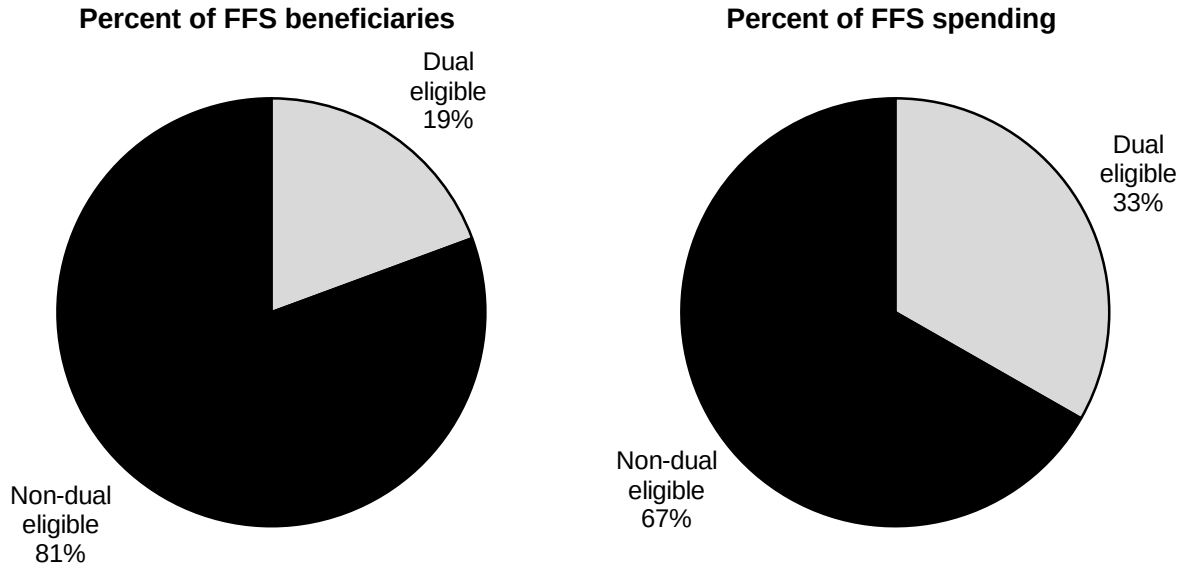
- In the commercial sector, employer-sponsored HMO premiums grew by 48 percent and PPO premiums by 45 percent over the same period, despite the rapidly increasing deductibles reported in the Kaiser Family Foundation survey. While deductibles grew rapidly for both employer-sponsored HMOs and PPOs, they tended to grow fastest for PPOs, possibly explaining why PPO premiums grew at a slightly slower rate than HMO premiums.

- None of the growth rates that we discuss have been adjusted for changes in demographics. We note that the average age of Medicare FFS beneficiaries declined by 0.3 years over this period.

SECTION 4

Dual-eligible beneficiaries

Chart 4-1. Dual-eligible beneficiaries accounted for a disproportionate share of Medicare spending, 2016



Note: FFS (fee-for-service). "Dual-eligible beneficiaries" are defined as beneficiaries who were eligible for both Medicare and Medicaid for at least one month during the year.

Source: MedPAC analysis of the Medicare Current Beneficiary Survey, 2016.

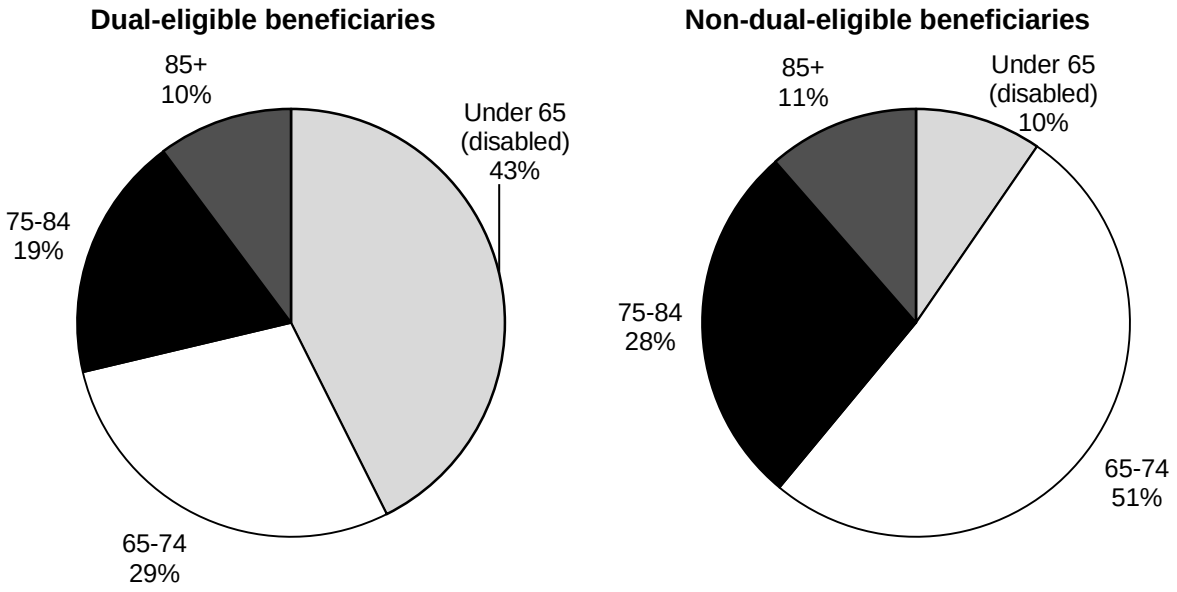
- Dual-eligible beneficiaries are those who qualify for both Medicare and Medicaid. Medicaid is a joint federal and state program designed to help people with low incomes obtain needed health care.

- Dual-eligible beneficiaries account for a disproportionate share of Medicare FFS expenditures. Although they were 19 percent of the Medicare FFS population in 2016, they represented 33 percent of aggregate Medicare FFS spending.

- On average, Medicare FFS per capita spending is more than twice as high for dual-eligible beneficiaries compared with non-dual-eligible beneficiaries: In 2016, $18,280 was spent per dual-eligible beneficiary, and $8,817 was spent per non-dual-eligible beneficiary (data not shown).

- In 2016, average total spending—which includes Medicare, Medicaid, supplemental insurance, and out-of-pocket spending across all payers—for dual-eligible beneficiaries was $28,970 per beneficiary, about twice the amount for other Medicare beneficiaries (data not shown).

Chart 4-2. Dual-eligible beneficiaries were more likely than non-dual-eligible beneficiaries to be under age 65 and disabled, 2016

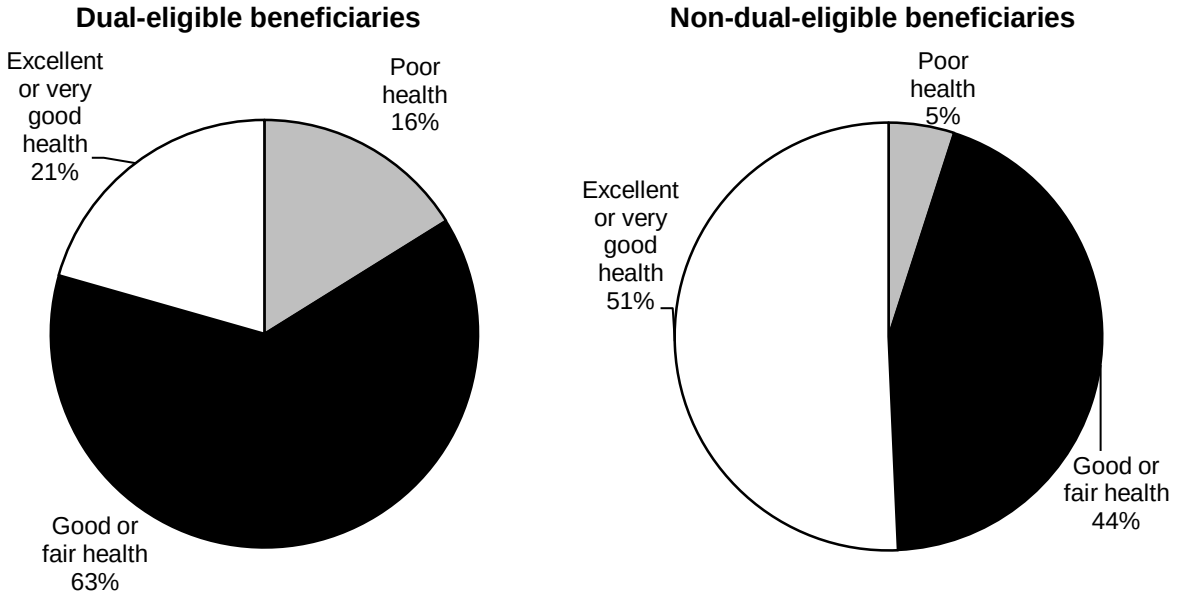


Note: Beneficiaries who are under age 65 generally qualify for Medicare because they are disabled. Once disabled beneficiaries reach age 65, they are counted as aged beneficiaries. "Dual-eligible beneficiaries" are defined as beneficiaries who were eligible for both Medicare and Medicaid for at least one month during the year. Totals may not sum to 100 percent due to rounding.

Source: MedPAC analysis of Medicare Current Beneficiary Survey, 2016.

- Disability is a pathway for individuals to become eligible for both Medicare and Medicaid benefits.
- Dual-eligible beneficiaries are more likely than non-dual-eligible beneficiaries to be under age 65 and disabled. In 2016, 43 percent of dual-eligible beneficiaries were under age 65 and disabled compared with 10 percent of the non-dual-eligible population.

Chart 4-3. Dual-eligible beneficiaries were more likely than non-dual-eligible beneficiaries to report being in poor health, 2016



Note: "Dual-eligible beneficiaries" are defined as beneficiaries who were eligible for both Medicare and Medicaid for at least one month during the year.

Source: MedPAC analysis of the Medicare Current Beneficiary Survey, 2016.

- Dual-eligible beneficiaries are more likely than non-dual-eligible beneficiaries to report being in poor health. In 2016, 16 percent of dual-eligible beneficiaries reported being in poor health compared with 5 percent of non-dual-eligible beneficiaries.

- Just over half of non-dual-eligible beneficiaries (51 percent) reported being in excellent or very good health in 2016. In comparison, about one-fifth (21 percent) of dual-eligible beneficiaries reported being in excellent or very good health.

Chart 4-4. Demographic differences between dual-eligible beneficiaries and non-dual-eligible beneficiaries, 2016

Characteristic	Percent of dual-eligible beneficiaries	Percent of non-dual-eligible beneficiaries
Sex		
Male	39%	47%
Female	61	53
Race/ethnicity		
White, non-Hispanic	52	81
African American, non-Hispanic	19	8
Hispanic	18	6
Other	11	6
Limitations in ADLs		
No limitations in ADLs	46	73
Limitations in 1–2 ADLs	26	18
Limitations in 3–6 ADLs	28	9
Residence		
Urban	79	80
Rural	21	20
Living arrangement		
Institution	10	1
Alone	32	27
With spouse	18	57
With children, nonrelatives, others	39	15
Education		
No high school diploma	39	12
High school diploma only	31	27
Some college or more	30	61
Income status		
Below poverty	53	6
100–125% of poverty	20	4
125–200% of poverty	19	17
200–400% of poverty	7	33
Over 400% of poverty	1	40
Supplemental insurance status		
Medicare or Medicare/Medicaid only	55	16
Medicare managed care	36	35
Employer-sponsored insurance	2	27
Medigap	3	20
Medigap/employer	<1	1
Other*	3	1

Note: ADL (activity of daily living). "Dual-eligible beneficiaries" are defined as beneficiaries who were eligible for both Medicare and Medicaid for at least one month during the year. "Urban" indicates beneficiaries living in metropolitan statistical areas (MSAs). "Rural" indicates beneficiaries living outside of MSAs. In 2016, poverty was defined as annual income of $11,511 for people living alone and $14,522 for married couples. Totals may not sum to 100 percent due to rounding and exclusion of an "other" category. Poverty thresholds are calculated by the U.S. Census Bureau (https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-poverty-thresholds.html).
*Includes public programs such as the Department of Veterans Affairs and state-sponsored drug plans.

Source: MedPAC analysis of Medicare Current Beneficiary Survey, 2016.

- Dual-eligible beneficiaries qualify for Medicaid due in part to low incomes. In 2016, 53 percent of dual-eligible beneficiaries lived below the federal poverty level, and 92 percent lived below 200 percent of the poverty level. Compared with non-dual-eligible beneficiaries, dual-eligible beneficiaries are more likely to be female, be African American or Hispanic, lack a high school diploma, have greater limitations in activities of daily living, and live in an institution. They are less likely to have supplemental employer-sponsored or Medigap coverage.

Chart 4-5. Differences in Medicare spending and service use between dual-eligible beneficiaries and non-dual-eligible beneficiaries, 2016

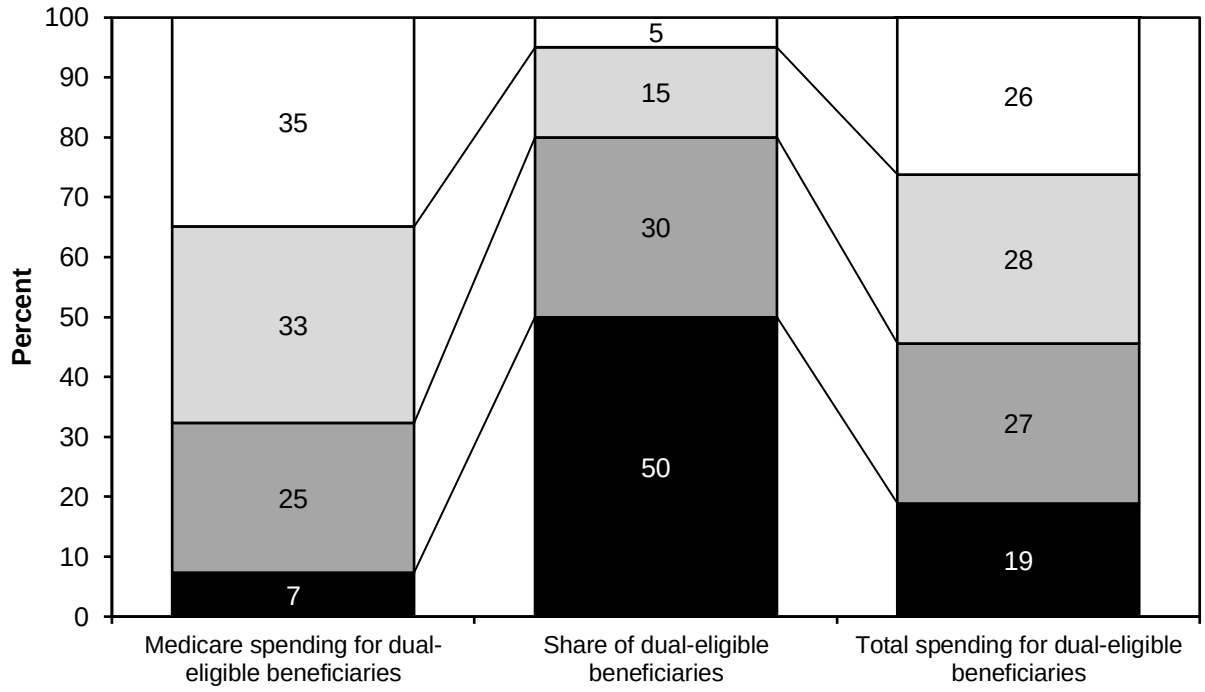
Service	Dual-eligible beneficiaries	Non-dual-eligible beneficiaries
Average FFS Medicare payment for all beneficiaries		
Total Medicare FFS payments	$18,280	$8,817
Inpatient hospital	4,043	2,284
Physician[a]	3,178	2,611
Outpatient hospital	2,166	1,456
Home health	728	369
Skilled nursing facility[b]	1,221	420
Hospice	479	206
Prescribed medication[c]	6,429	1,466
Share of FFS beneficiaries using service		
Share using any type of service	97.0%	86.2%
Inpatient hospital	23.2	12.9
Physician[a]	92.5	82.8
Outpatient hospital	79.1	62.5
Home health	13.1	7.5
Skilled nursing facility[b]	6.2	3.3
Hospice	3.5	2.0
Prescribed medication[c]	79.7	57.1

Note: FFS (fee-for-service). Data in this analysis are restricted to beneficiaries in FFS Medicare. "Dual-eligible beneficiaries" are defined as beneficiaries who were eligible for both Medicare and Medicaid for at least one month during the year. Spending totals derived from the Medicare Current Beneficiary Survey (MCBS) do not necessarily match official estimates from CMS Office of the Actuary. Total payments may not equal the sum of line items due to omitted "other" category.
[a] Includes a variety of medical services, equipment, and supplies.
[b] Individual short-term facility (usually skilled nursing facility) stays for the MCBS population.
[c] Data from Medicare Advantage–Prescription Drug plans and stand-alone prescription drug plans.

Source: MedPAC analysis of the Medicare Current Beneficiary Survey, 2016.

- In 2016, average per capita Medicare FFS spending for dual-eligible beneficiaries was more than twice that for non-dual-eligible beneficiaries—$18,280 compared with $8,817.
- For each type of service, average Medicare FFS per capita spending was higher for dual-eligible beneficiaries than for non-dual-eligible beneficiaries.
- Higher average per capita FFS spending for dual-eligible beneficiaries is a function of higher use of these services by dual-eligible beneficiaries compared with their non-dual-eligible counterparts. Dual-eligible beneficiaries are more likely than non-dual-eligible beneficiaries to use each type of Medicare-covered service.

Chart 4-6. Both Medicare and total spending were concentrated among dual-eligible beneficiaries, 2016



Note: "Total spending" includes Medicare, Medicaid, supplemental insurance, and out-of-pocket spending. "Dual-eligible beneficiaries" are defined as beneficiaries who were eligible for both Medicare and Medicaid for at least one month during the year.

Source: MedPAC analysis of the Medicare Current Beneficiary Survey, 2016.

- Annual Medicare fee-for-service spending on dual-eligible beneficiaries is concentrated among a small number. The costliest 5 percent of dual-eligible beneficiaries accounted for 35 percent of Medicare spending and 26 percent of total spending on dual-eligible beneficiaries in 2016. In contrast, the least costly 50 percent of dual-eligible beneficiaries accounted for only 7 percent of Medicare spending and 19 percent of total spending on dual-eligible beneficiaries.

- On average, total spending (including Medicaid, Medigap, etc.) for dual-eligible beneficiaries in 2016 was about twice that for non-dual-eligible beneficiaries—$28,970 compared with $15,079, respectively (data not shown).

SECTION 5

Quality of care in the Medicare program

Chart 5-1. SNFs improved on some measures but not others from 2011 to 2017

Measure	2011	2013	2015	2017
Discharged to the community	33.5%	35.7%	38.8%	40.0%
Potentially avoidable readmissions				
During SNF stay	12.4	11.2	10.4	10.9
During 30 days after discharge from SNF	5.9	5.5	5.0	6.1
Rate of improvement in one or more mobility ADLs	43.6	43.7	43.6	43.9
Rate of no decline in mobility	87.2	87.1	87.1	87.0

Note: SNF (skilled nursing facility), ADL (activity of daily living). High rates of discharge to the community indicate better quality. High readmission rates indicate worse quality. All rates were risk adjusted. The rate of improvement in mobility ADLs is the average of the rates of improvement in bed mobility, transfer, and ambulation, weighted by the number of stays included in each measure. Stays with improvement in one, two, or three mobility ADLs are counted in the improvement measures. "Rate of no decline in mobility" is the share of stays with no decline in any of the three ADLs. Rates are the average of facility rates and calculated for all facilities with 25 or more stays, except the rate of potentially avoidable readmissions during the 30 days after discharge, which is reported for all facilities with 20 or more stays. Measures exclude hospital-based swing-bed units.

Source: MedPAC analysis of Medicare claims and Minimum Data Set data for 2011–2017.

- Quality measures for SNFs draw on two sources, claims for payment submitted by SNFs and patient assessment data collected by SNFs. Evidence that patient assessment–based functional measures of quality should be interpreted carefully, given evidence that the patient assessment information reported by inpatient rehabilitation facilities and home health agencies may reflect financial considerations.

- Rates of claims-based, risk-adjusted community discharge and potentially avoidable readmission during the SNF stay improved between 2011 and 2017. A greater share of beneficiaries was discharged to the community (40.0 percent compared with 33.5 percent). A lesser share of beneficiaries was readmitted to an acute care hospital during the SNF stay (10.9 percent compared with 12.4 percent). The share of beneficiaries readmitted to an acute care hospital in the 30 days after discharge increased between 2015 and 2017, putting the rate higher than in 2011.

- Both readmission rates include only patients readmitted to a hospital with the principal diagnosis of a potentially avoidable condition. The 13 potentially avoidable conditions are congestive heart failure, electrolyte imbalance/dehydration, respiratory infection, sepsis, urinary tract or kidney infection, hypoglycemia or diabetic complications, anticoagulant complications, fractures and musculoskeletal injuries, acute delirium, adverse drug reactions, cellulitis/wound infections, pressure ulcers, and abnormal blood pressure.

- The two patient assessment–based, risk-adjusted measures of change in functional status were essentially unchanged between 2011 and 2017. The mobility measures are composites of the patients' abilities in bed mobility, transfer, and ambulation, and they reflect the likelihood that a patient will change, given his or her functional ability at admission. A facility admitting patients with worse prognoses will have lower expected rates of achieving these outcomes, and this difference will be reflected in the risk-adjusted rates.

Chart 5-2. Home health agencies' assessment-based performance measures increased markedly from 2014 to 2017, while claims-based performance measures were largely unchanged

Measure	2014	2015	2016	2017
Average share of an agency's beneficiaries who:				
Used emergency department care	12.0%	12.2%	12.1%	12.7%
Had to be admitted to the hospital	15.4	15.5	16.2	15.4
Average share of a home health agency's beneficiaries with improvements in:				
Walking	61	63	69	74
Transferring	55	59	65	72

Note: All data pertain to fee-for-service beneficiaries only and are risk adjusted for differences in patient condition among home health patients.

Source: MedPAC analysis of Medicare claims data and Outcome and Assessment Information Set data provided by the University of Colorado.

- Quality measures for home health care draw on two sources, claims for payment submitted by HHAs and other patient assessment data collected by HHAs. In recent years, quality measures based on claims have indicated little change in quality, while measures based on patient assessment data have indicated improved quality. The claims-based rates of hospitalization and emergency department use have not changed significantly from 2014 to 2017, while the patient assessment–based functional improvement rates have improved. From 2014 and 2017, average rates of beneficiaries with improvement in transferring improved from 55 percent to 72 percent. These divergent trends raise concerns about the objectivity of the patient assessment data and suggest that the functional measures of quality, such as walking and transferring, should be interpreted carefully.

- Medicare implemented a value-based purchasing program for home health agencies in nine states in 2018. In 2019, agencies in these states will receive bonuses or penalties of up to 5 percent depending on their performance on 16 measures, including the functional and emergency department use measures listed above.

Chart 5-3. IRFs improved on risk-adjusted rates of discharge to the community and potentially avoidable rehospitalizations during the stay, 2012 to 2017

Measure	2012	2013	2014	2015	2016	2017
Potentially avoidable rehospitalizations during IRF stay	2.8%	2.6%	2.7%	2.6%	2.7%	2.6%
Potentially avoidable rehospitalizations during 30 days after discharge from IRF	4.8	4.8	4.7	4.3	4.7	4.7
Discharged to the community	74.2	74.9	75.2	75.0	75.9	76.0
Discharged to a SNF	6.9	6.9	7.1	7.0	6.8	6.8

Note: IRF (inpatient rehabilitation facility), SNF (skilled nursing facility). High rates of rehospitalization and discharge to a SNF indicate worse quality. High rates of discharge to the community indicate better quality. Rates are the average of the facility rates and are calculated for all facilities with 25 or more stays.

Source: Analysis of Medicare claims data and Inpatient Rehabilitation Facility–Patient Assessment Instrument data from CMS.

- Between 2012 and 2017, the national average rate of risk-adjusted potentially avoidable rehospitalizations during IRF stays declined from 2.8 percent to 2.6 percent. (Lower rates are better.) The national average rate of risk-adjusted potentially avoidable rehospitalizations within 30 days after discharge from an IRF declined from 4.8 percent to 4.3 percent in 2015, then rose to 4.7 percent in 2016 and 2017.

- The rehospitalization rates count only stays readmitted to a hospital with the principal diagnosis of a potentially avoidable condition. The potentially avoidable rehospitalizations we measure are respiratory-related illness (pneumonia, influenza, bronchitis, chronic obstructive pulmonary disease, and asthma); sepsis; congestive heart failure; fractures or fall with a major injury; urinary tract or kidney infection; blood pressure management; electrolyte imbalance; anticoagulant therapy complications; diabetes-related complications; cellulitis or wound infection; pressure ulcer; medication error or adverse drug reaction; and delirium.

- Between 2012 and 2017, the national average for the risk-adjusted community discharge rate increased from 74.2 percent to 76.0 percent. (Higher rates are better). Our measure of community discharge does not give IRFs credit for discharging a Medicare beneficiary to the community if the beneficiary is subsequently admitted to an acute care hospital within 30 days of the IRF discharge. Between 2012 and 2014, the national risk-adjusted rate of discharge to a SNF increased from 6.9 percent to 7.1 percent, but subsequently declined to 6.8 percent in 2017 (lower rates are better).

Chart 5-4. Dialysis quality of care: Some measures show progress, others need improvement, 2012–2016

Outcome measure	2012	2014	2016
Share of in-center hemodialysis patients:			
Receiving adequate dialysis	97%	97%	98%
Managing anemia			
Mean hemoglobin <10 g/dL	22	26	27
Mean hemoglobin 10 to <12 g/dL	71	69	68
Mean hemoglobin ≥12 g/dL	7	5	5
Dialyzed with an AV fistula	60	62	63
Share of peritoneal dialysis patients:			
Receiving adequate dialysis	90	91	93
Managing anemia			
Mean hemoglobin <10 g/dL	30	34	34
Mean hemoglobin 10 to <12 g/dL	63	61	60
Mean hemoglobin ≥12 g/dL	7	5	5
Share of all dialysis patients wait-listed for a kidney	17.6	17.3	15.3
Renal transplant rate per 100 dialysis-patient years	3.5	3.4	3.5
Annual mortality rate per 100 patient years*	17.0	16.5	16.4
Total hospital admissions per patient year*	1.9	1.7	1.7
Hospital days per patient year*	12.0	11.4	11.3

Note: g/dL (grams per deciliter [of blood]), AV (arteriovenous). The rate per patient year is calculated by dividing the total number of events by the fraction of the year that patients were followed. Data on dialysis adequacy, anemia management, and fistula utilization represent the share of patients meeting CMS's clinical performance measures. The United States Renal Data System adjusts data by age, gender, race, and primary diagnosis of end-stage renal disease.
*Lower values suggest higher quality.

Source: Compiled by MedPAC with data from Fistula First, the United States Renal Data System, and institutional outpatient files from CMS.

- Quality of dialysis care is mixed. Performance has improved on some measures, but performance on others remains unchanged or has declined.
- All hemodialysis patients require vascular access—the site on the patient's body where blood is removed and returned during dialysis. Between 2012 and 2016, use of arteriovenous fistulas, considered the best type of vascular access, increased from 60 percent to 63 percent of hemodialysis patients. Between 2012 and 2016, overall adjusted mortality rates decreased by 4.0 percent (from 17.0 percent to 16.4 percent).
- Between 2012 and 2016, the proportion of hemodialysis patients receiving adequate dialysis remained high, and overall rates of hospitalization declined.
- Other measures suggest that improvements in dialysis quality are still needed. We looked at access to kidney transplantation because it is widely believed to be the best treatment option for individuals with end-stage renal disease. Between 2012 and 2016, the proportion of dialysis patients accepted on the kidney transplant waiting list declined, and the renal transplant rate per 100 dialysis-patient years did not change.

Chart 5-5. Small improvements in hospital patient experience measures, 2013–2017

H–CAHPS® measure	2013	2014	2015	2016	2017	Percentage point change, 2013–2017
Hospital rating	71%	71%	72%	73%	73%	2
Communication with nurses	79	79	80	80	80	1
Communication with doctors	82	82	82	82	82	0
Responsiveness of hospital staff	68	68	68	69	70	2
Communication about medicines	64	65	65	65	66	2
Cleanliness of hospital environment	74	74	74	75	75	1
Quietness of hospital environment	61	62	62	63	62	1
Discharge information	86	86	87	87	87	1
Recommend the hospital	71	71	72	72	72	1
Care transition*	51	52	52	52	53	2

Note: H–CAHPS® (Hospital Consumer Assessment of Healthcare Providers and Systems®). H–CAHPS is a standardized 32-item survey of patients' evaluations of hospital care. The survey items are combined to calculate measures of patient experience for each hospital. The H–CAHPS measures included in the table are the "top-box," or the most positive, response to H–CAHPS survey items. The top-box response is "Always" for four H–CAHPS composite measures (communication with nurses, communication with doctors, responsiveness of hospital staff, and communication about medicines) and two individual items (cleanliness of hospital environment and quietness of hospital environment), "Yes" for the discharge information composite, "'9' or '10' (high)" for the hospital rating item, "Definitely yes" for the recommend the hospital item, and "Strongly agree" for the care transition composite. Each year's results are based on a sample of hospital surveys of their patients from January to December. About 4,239 hospitals are included, and, on average, these hospitals had patient-level survey response rates of 28 percent.

Source: CMS summary of H–CAHPS public report of survey results tables.

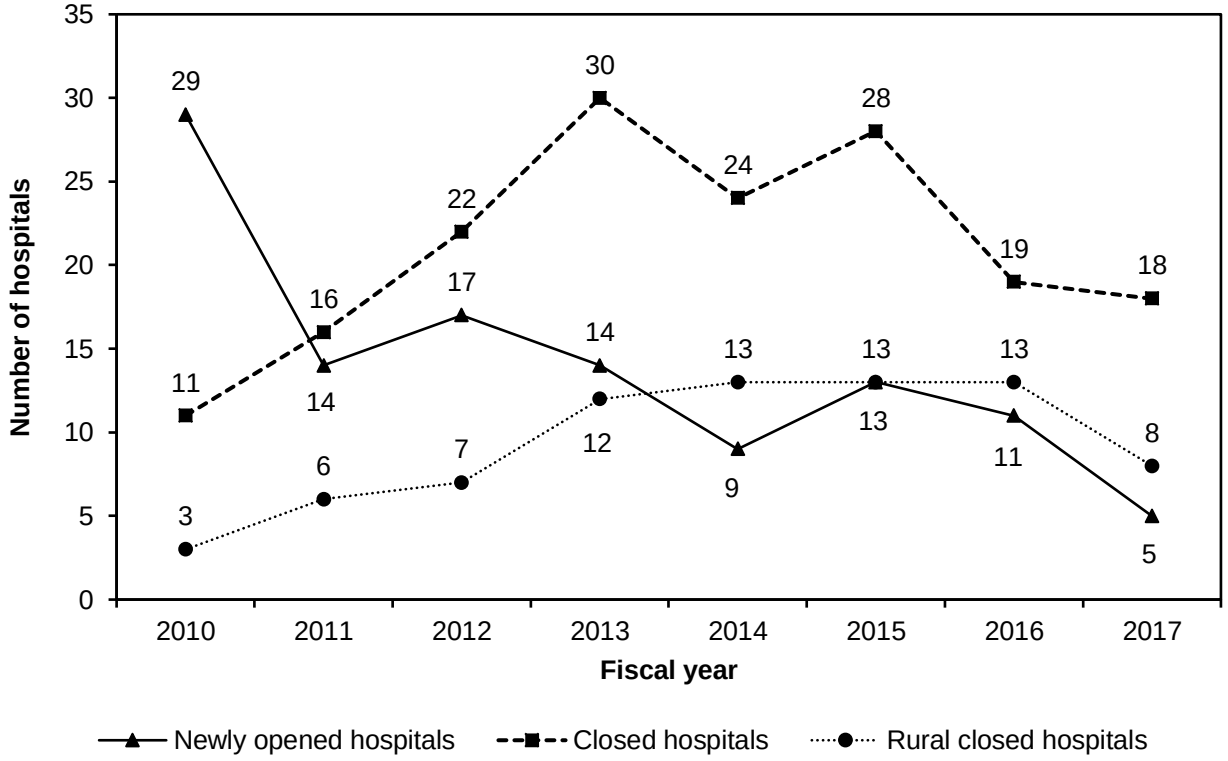
- In 2008, CMS began publicly reporting H–CAHPS results on the Hospital Compare website. In 2013, Medicare began the hospital value-based purchasing program, which makes incentive payments to hospitals based on the outcomes of certain quality measures. This program incorporates results from H–CAHPS.
- The share of patients who rated their hospital a 9 or 10 on a 10-point scale increased from 71 percent in 2013 to 73 percent in 2017.
- All but one of the hospital patient experience measures improved slightly from 2013 to 2017.

SECTION 6

Acute inpatient services

General short-term hospitals
Inpatient psychiatric facilities

Chart 6-1. Number of acute care hospital closures has exceeded openings each year since 2011

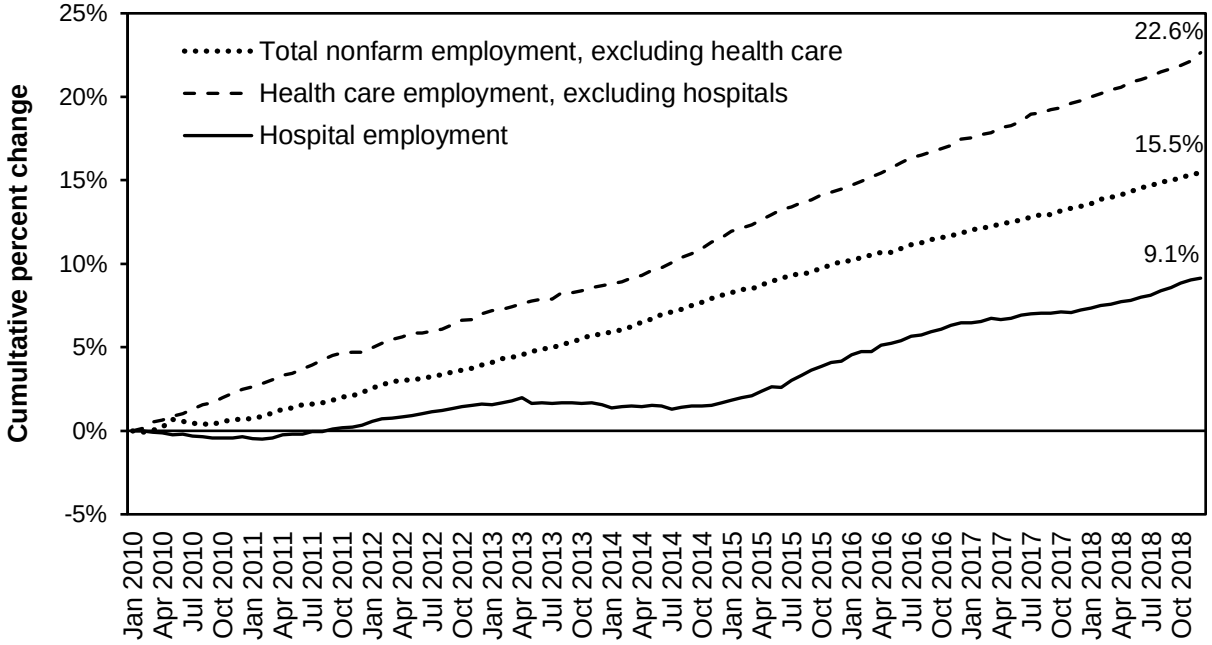


Note: Data are for general short-term acute care hospitals, including critical access hospitals. "Rural" refers to a county not in a core-based statistical area. The Commission's reported number of open and closed hospitals can change from year to year based on hospitals that enter Medicare as an acute care facility and later convert to a more specialized type of facility, such as a long-term care hospital.

Source: MedPAC analysis of Provider of Service file from CMS, data from the Health Resources and Services Administration, and internet searches.

- While hospital closures are still relatively rare events, there have been more acute care hospital closures than openings each year since 2011.
- In 2017, 18 of the approximately 4,700 acute care hospitals participating in the Medicare program closed, and 5 hospitals opened. Among the 18 closures, 8 were in rural counties. Rural hospital closures could in part reflect low inpatient occupancy (see Chart 6-13). All five openings were in urban counties.

Chart 6-2. Employment for hospital industry has grown slower than rest of health care sector and rest of economy, 2010–2018



Note: "Cumulative percent change" is the total percentage change from 2010. "Total nonfarm employment" is defined as all employment not of or relating to farms or farming.

Source: MedPAC analysis of Bureau of Labor Statistics, Current Employment Statistics data set as of March 2019.

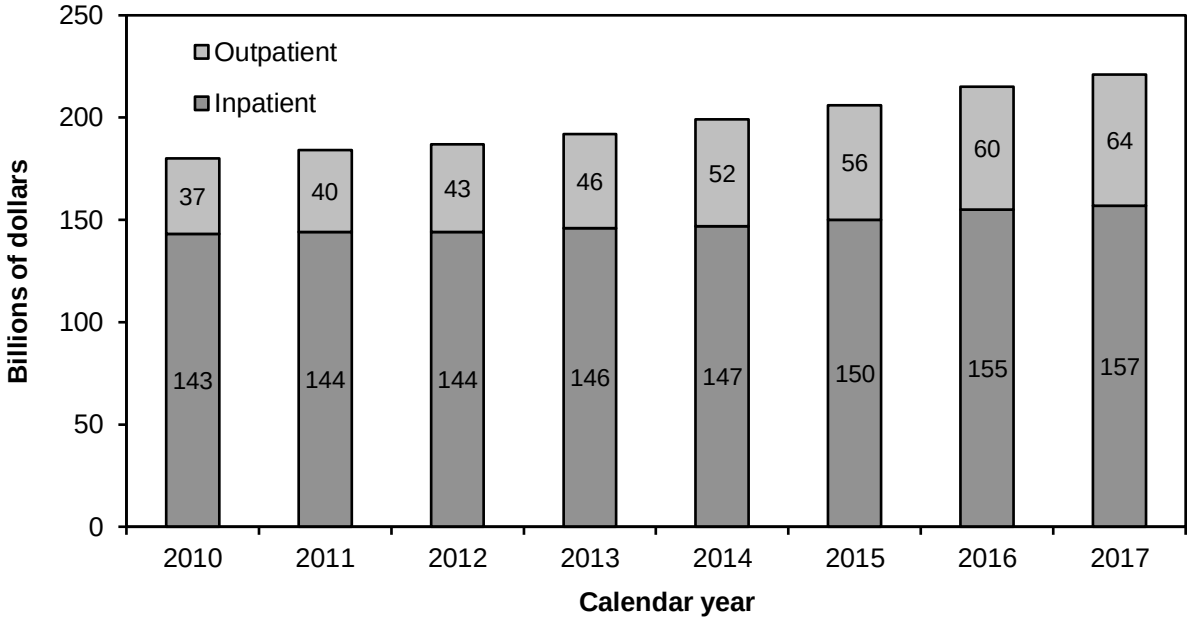
- The Bureau of Labor Statistics survey of current employment data indicates that the number of individuals directly employed within the hospital industry increased 9.1 percent from January 2010 to December 2018. Employment in the rest of the health care sector increased 22.6 percent, and employment across the rest of the economy (nonfarm minus health care) increased 15.5 percent as it recovered from the recession of 2009.

- In the most recent year (from 2017 to 2018), hospital employment increased 2.5 percent, the rest of the health care sector increased 4.3 percent, and employment across the rest of the economy (nonfarm minus health care) increased 3.1 percent.

- From 2016 to 2018, the number of hospital staff in health care practitioner and technical occupations overall increased 3 percent (data not shown). Within this category, larger-than-average increases occurred for physicians and surgeons (12 percent); diagnostic-related technologists and technicians (5 percent); therapists (4 percent); and registered nurses (3 percent). Clinical laboratory technologists and technicians were among the few occupations in this category with a decline in employment (–4 percent).

- From 2016 to 2018, the number of hospital staff in nonclinical occupations increased for just a few occupational categories: secretaries and administrative assistants (2 percent) and building cleaning workers (1 percent) (data not shown).

Chart 6-3. Medicare's FFS payments for hospital outpatient services have grown faster than for inpatient services, 2010–2017



Note: FFS (fee-for-service). Analysis includes inpatient services covered by the acute inpatient prospective payment system (PPS) and psychiatric, rehabilitation, long-term care, cancer, and children's hospitals and units covered by their respective payment systems; outpatient services covered by the outpatient PPS; and other outpatient services. Payments include program outlays and beneficiary cost sharing, including hospital cost sharing for beneficiaries eligible for Medicare because of end-stage renal disease.

Source: CMS, Office of the Actuary.

- Aggregate Medicare FFS inpatient spending was $157 billion and outpatient spending was $64 billion in 2017. From 2016 to 2017, inpatient spending increased 1.5 percent, while outpatient spending increased nearly 6.7 percent.
- Inpatient spending increased as much between 2015 and 2017 ($7 billion) as it did between 2010 and 2015.
- Outpatient spending has increased as a share of total Medicare hospital spending in the past seven years. In 2010, outpatient spending accounted for approximately 20 percent of all Medicare spending for hospital services; by 2017, outpatient spending grew to almost 29 percent of total Medicare hospital spending.

Chart 6-4. Urban acute care hospitals comprised half of hospitals but vast majority of Medicare FFS discharges, 2017

	Acute care hospitals		Medicare FFS discharges	
Hospital group	Number	Share of total	Number (thousands)	Share of total
All PPS and critical access	4,559	100%	9,502	100%
PPS hospitals	3,212	70.5	9,198	96.8
Urban	2,430	53.3	8,258	86.9
Rural	782	17.2	939	9.9
Large urban	1,262	27.7	4,039	42.5
Other urban	1,168	25.6	4,219	44.4
Rural referral	88	1.9	217	2.3
Sole community	363	8.0	481	5.1
Medicare dependent	133	2.9	97	1.0
Other rural, <50 beds	108	2.4	43	0.5
Other rural, ≥50 beds	90	2.0	101	1.1
Nonprofit	1,883	41.3	6,481	68.2
For-profit	846	18.6	1,648	17.3
Government	483	10.6	1,068	11.2
Major teaching	310	6.8	1,701	17.9
Other teaching	778	17.1	3,600	37.9
Nonteaching	2,124	46.6	3,897	41.0
Critical access hospitals	1,347	29.6	304	3.2

Note: FFS (fee-for-service), PPS (prospective payment system). Data are for general short-term acute care hospitals covered under the inpatient PPS and critical access hospitals with complete 2017 cost reports. "Large urban" areas are those with populations of more than 1 million. "Major teaching hospitals" are defined by a ratio of interns and residents to beds of at least 0.25. Components may not sum to totals due to rounding.

Source: MedPAC analysis of hospital cost report and impact file data from CMS.

- In 2017, there were almost 9.2 million discharges among Medicare FFS beneficiaries as 3,212 acute care PPS hospitals and another 304,000 discharges at 1,347 small, rural hospitals designated as critical access hospitals.
- Urban PPS hospitals comprised half (53 percent) of the acute care hospitals but the vast majority (about 87 percent) of Medicare FFS discharges.
- About 91 percent of rural hospitals were paid through the critical access hospital program or one of three other special PPS payment provisions for rural hospitals (sole community hospitals, Medicare-dependent hospitals, and rural referral centers). Collectively, these four types of hospitals accounted for 88 percent of all rural Medicare FFS discharges.

Chart 6-5. Circulatory system was most common major diagnostic category among Medicare FFS discharges from acute care hospitals, 2010 and 2017

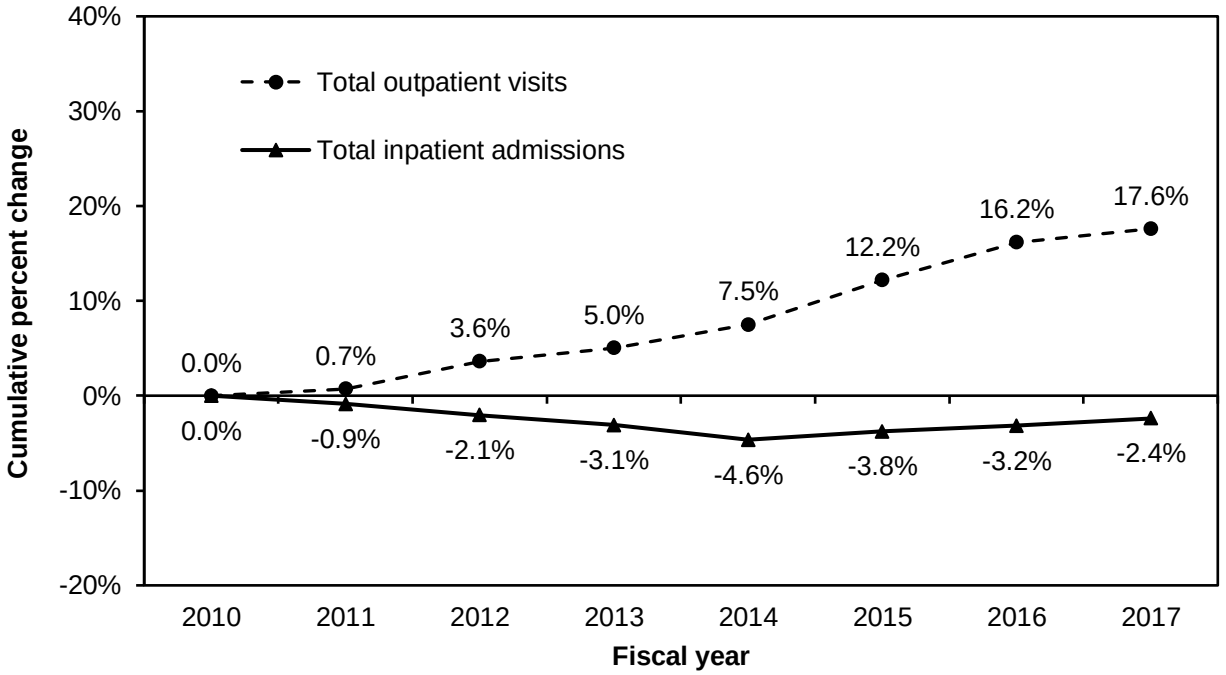
MDC number	MDC name	Share of Medicare FFS discharges 2010	Share of Medicare FFS discharges 2017	Percentage point change
5	Circulatory system	24%	20%	–3
8	Musculoskeletal system	12	14	2
4	Respiratory system	15	14	–1
6	Digestive system	11	10	–1
18	Infectious and parasitic diseases	5	10	5
1	Nervous system	8	8	0
11	Kidney and urinary tract	7	8	1
10	Endocrine, nutritional and metabolic	4	4	0
7	Hepatobiliary system and pancreas	3	3	0
9	Skin, subcutaneous tissue and breast	3	2	0
	Total	91	92	1

Note: FFS (fee-for-service), MDC (major diagnostic category). Data are for inpatient discharges of Medicare FFS beneficiaries from general short-term acute care hospitals covered under the inpatient prospective payment system and critical access hospitals. Components may not sum to totals due to rounding.

Source: MedPAC analysis of MedPAR data from CMS.

- In 2017 (and 2010), 10 major diagnostic categories accounted for over 90 percent of all Medicare FFS discharges from acute care hospitals.
- The circulatory system was the most common major diagnostic category among Medicare FFS discharges; however, its share declined from 24 percent to 20 percent between 2010 and 2017.
- Between 2010 and 2017, the major diagnostic category with the largest increase was infectious and parasitic diseases, which increased from 5 percent to 10 percent of Medicare FFS discharges, due to growth in the number of FFS beneficiaries hospitalized with septicemia or severe sepsis.

Chart 6-6. All-payer hospital outpatient visits increased rapidly while inpatient admissions declined, 2010–2017



Note: "Cumulative percent change" is the total percentage change from 2010. "Outpatient visits" include all clinic visits, referred visits, observation services, outpatient surgeries, and emergency department visits, regardless of the number diagnostic and/or therapeutic treatments the patient received during the visit. Data are for community hospitals (nonfederal short-term general and specialty hospitals), estimated from those who responded to the American Hospital Association (AHA) survey. The AHA began, with the 2019 edition of Hospital Statistics, using a new methodology to classify facilities as hospitals. As a result of the application of the new, broader hospital definition, the number of community hospitals in each of 2013 to 2017 increased by approximately 400.

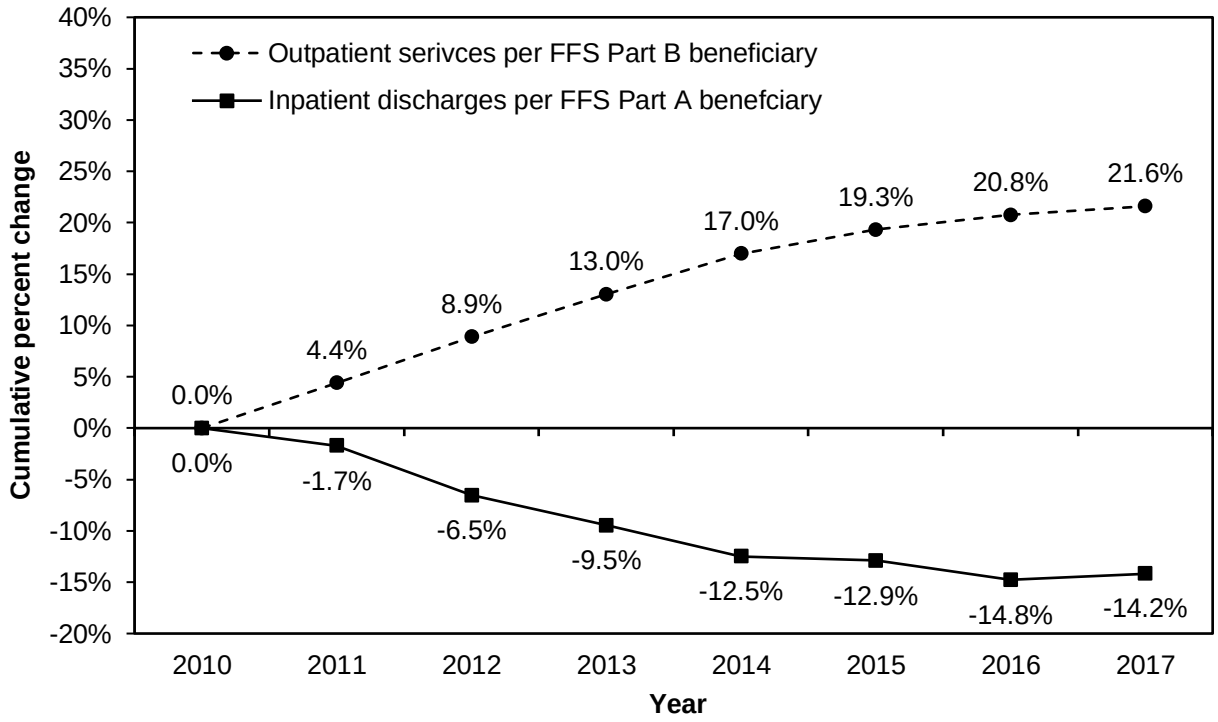
Source: MedPAC analysis of Hospital Statistics data from the American Hospital Association.

- In 2017, there were nearly 766 million outpatient visits and 34 million inpatient admissions across all patients at community hospitals (nonfederal short-term general and specialty hospitals) (data not shown).

- All-payer hospital outpatient visits grew rapidly between 2010 and 2017, while inpatient admissions declined overall. From 2010 to 2017, the number of outpatient visits increased about 18 percent. By contrast, over the same period, the number of all-payer inpatient admissions declined more than 2 percent.

- All-payer outpatient and inpatient service use both increased from 2014 to 2017. Over this period, the number of outpatient visits increased by 10.1 percentage points, while the number of inpatient admissions increased 2.2 percentage points.

Chart 6-7. Growth in Medicare outpatient services and decline in inpatient discharges per FFS beneficiary have slowed, 2010–2017



Note: FFS (fee-for-service). "Cumulative percent change" is the total percentage change from 2010. Years for outpatient services are calendar years, and years for inpatient discharges are fiscal years. Data for outpatient services include hospitals paid under the outpatient prospective payment system and critical access hospitals; data for inpatient admissions include hospitals paid under the inpatient prospective payment system.

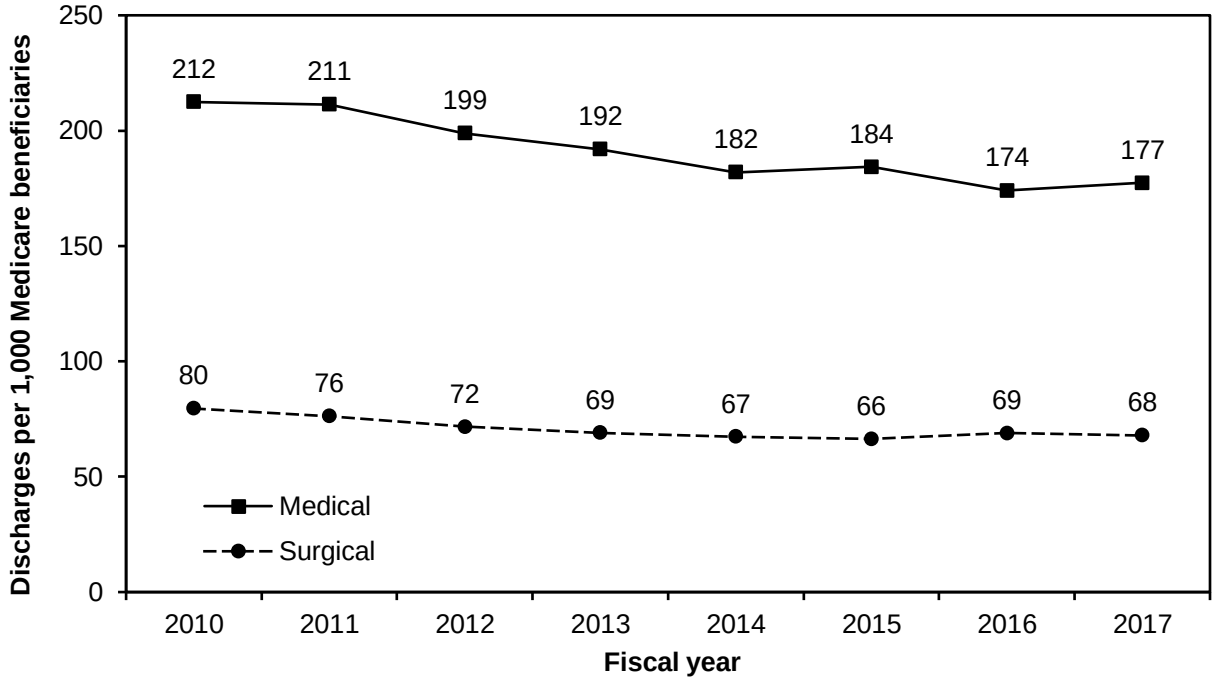
Source: MedPAC analysis of hospital outpatient claims and MedPAR data from CMS.

- In 2017, Medicare FFS beneficiaries received approximately 170 million outpatient services and had 9 million inpatient discharges at hospitals paid under the prospective payment systems (data not shown).

- From 2010 to 2017, the number of Medicare outpatient visits per FFS beneficiary increased 21.6 percent. By contrast, over the same period, the number of Medicare inpatient discharges per FFS beneficiary declined 14.2 percent.

- Between 2016 and 2017, both outpatient services and inpatient discharges per FFS beneficiary increased by about 0.7 percentage points. These small increases reflect a discontinuation of long-term trends where outpatient use increased while inpatient use decreased.

Chart 6-8. Declines in both medical and surgical inpatient discharges per Medicare FFS beneficiary have slowed, 2010–2017

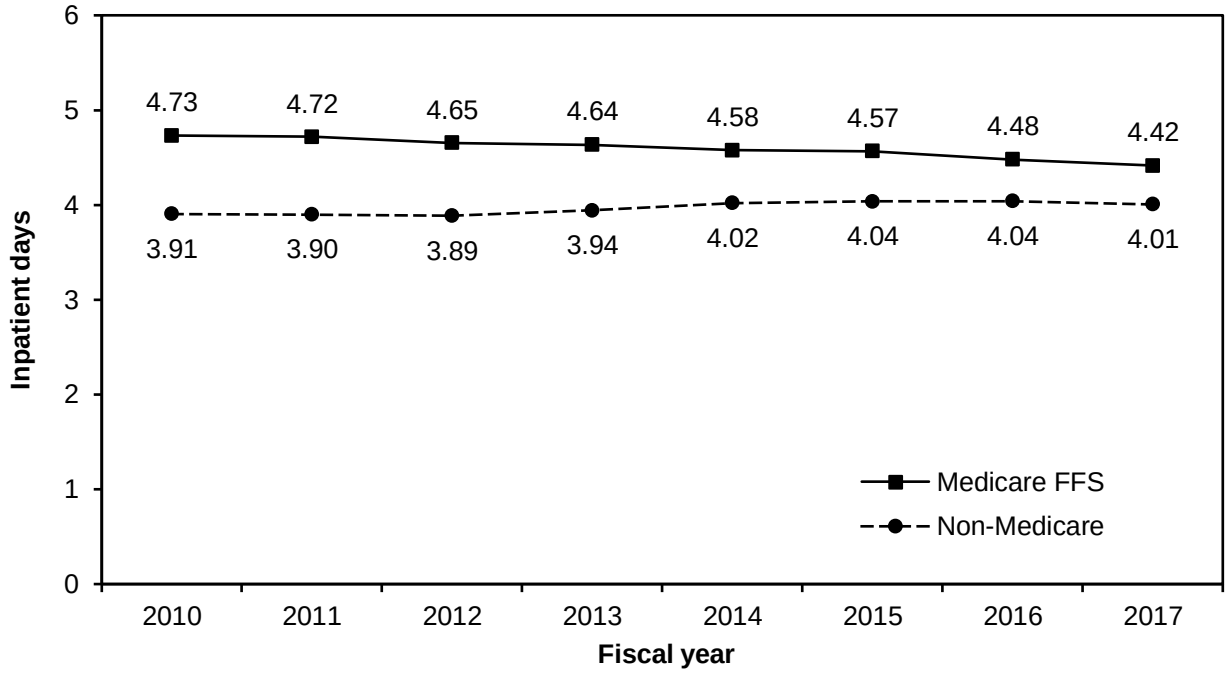


Note: FFS (fee-for-service). Data are for short-term general hospitals covered under the inpatient prospective payment system and critical access hospitals. Discharges are per 1,000 Medicare FFS Part A beneficiaries.

Source: MedPAC analysis of MedPAR data from CMS.

- From 2010 to 2017, the volume of medical inpatient discharges per 1,000 Medicare FFS beneficiaries declined 16.5 percent (from 212 to 177) and the volume of surgical inpatient discharges declined 14.7 percent (from 80 to 68).
- However, between 2016 and 2017, the volume of medical discharges per 1,000 Medicare FFS beneficiaries increased from 174 to 177, reflecting a discontinuation of long-term trends. This increase is in part attributable to an increase in the number of admissions for circulatory and respiratory diagnoses (the two largest medical major diagnostic categories).
- Between 2016 and 2017, the volume of surgical discharges decreased slightly from 69 to 68 per 1,000 Medicare FFS beneficiaries.
- Together, these two trends resulted in an increase in the overall average patient case mix for Medicare inpatient discharges of 0.6 percent between 2016 and 2017 (data not shown).

Chart 6-9. Average length of stay has decreased for Medicare FFS inpatients and increased for non-Medicare inpatients, 2010–2017

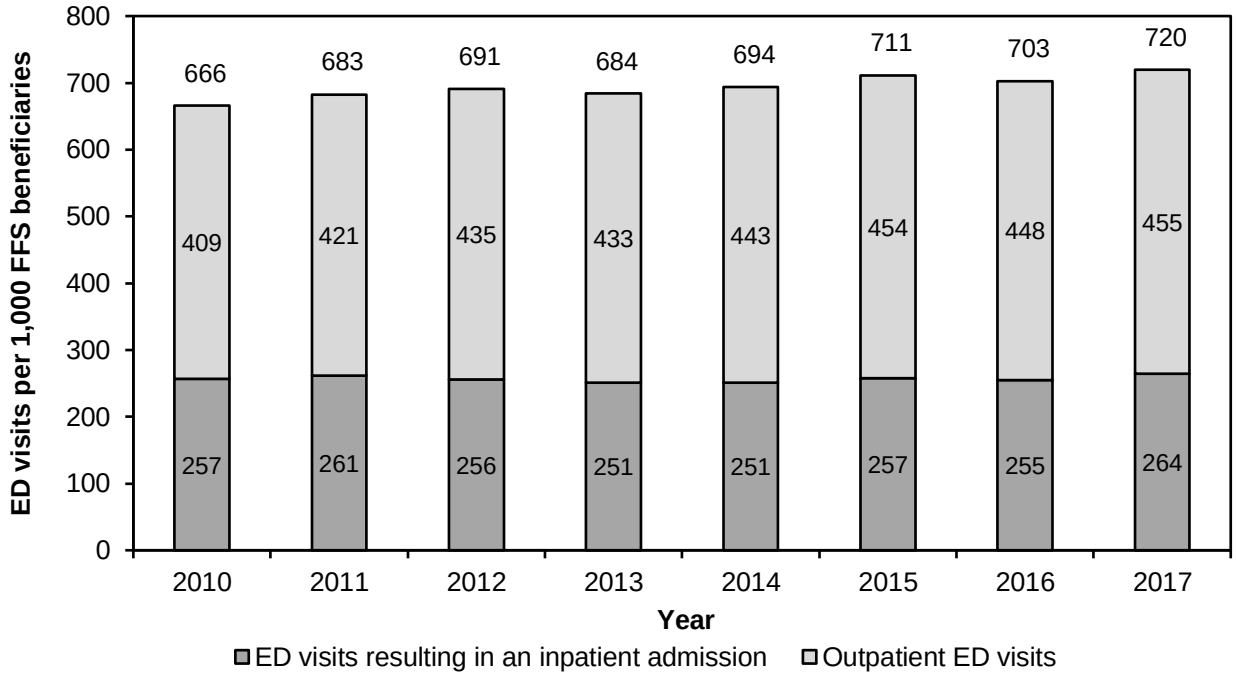


Note: FFS (fee-for-service). Average length of stay is calculated from discharges and patient days (excluding swing bed days). Data are for a consistent cohort of general short-term acute care hospitals covered by the inpatient prospective payment system.

Source: MedPAC analysis of hospital cost report data from CMS.

- From 2010 to 2017, the average length of stay for Medicare FFS inpatients declined 6.7 percent, from 4.73 days to 4.42. By contrast, the average length of stay for non-Medicare inpatients increased 2.6 percent over the same time period, from 3.91 days to 4.01 days.
- Together, these two trends led to the difference in average length of stay between Medicare FFS and non-Medicare inpatients decreasing from almost a day in 2010 to less than half a day in 2017.

Chart 6-10. Hospital emergency department use per Medicare FFS beneficiary increased, 2010–2017



Note: FFS (fee-for-service), ED (emergency department). Years for outpatient ED visits are calendar years, and years for ED visits resulting in an inpatient admission are fiscal years. Data for outpatient ED visits include hospitals paid under the outpatient prospective payment system and critical access hospitals; data for ED visits resulting in an inpatient admission include hospitals paid under the inpatient prospective payment system and critical access hospitals. Components may not sum to totals due to rounding.

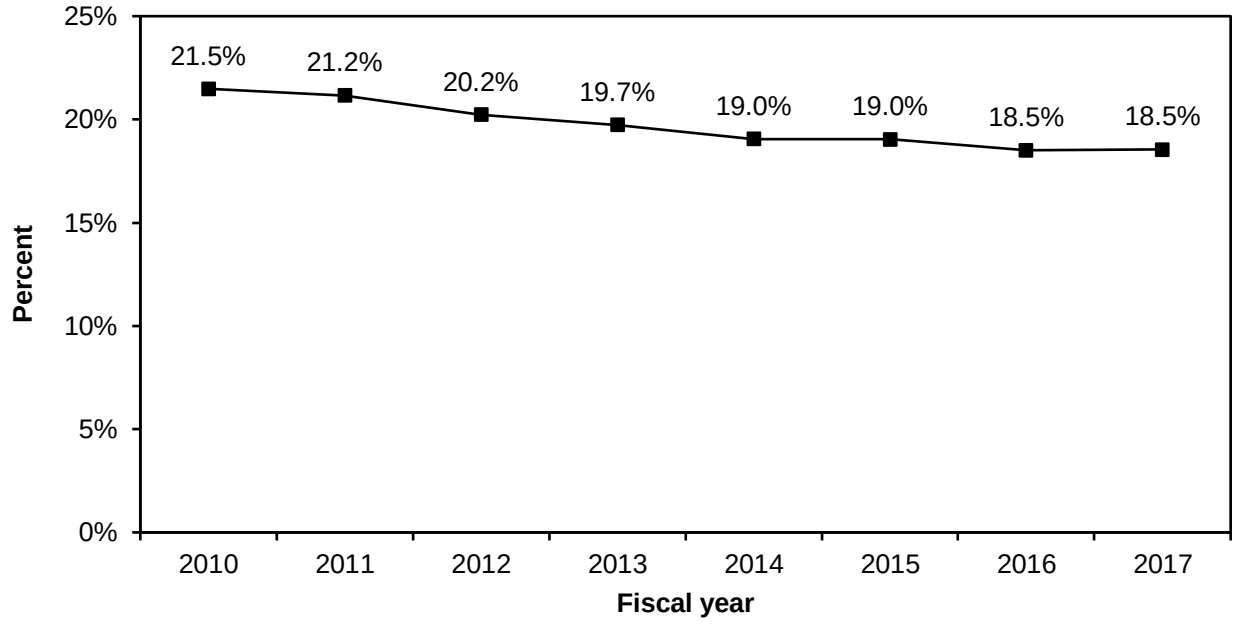
Source: MedPAC analysis of standard analytical file of outpatient claims and MedPAR data from CMS.

- In 2017, Medicare FFS beneficiaries accounted for 28 million visits to hospital EDs (data not shown). Among these visits, over 17 million were outpatient ED visits—visits that did not result in an inpatient admission—and over 10 million were inpatient ED visits—visits that did result in inpatient admissions.

- From 2010 to 2017, the number of ED visits per 1,000 FFS beneficiaries increased from 666 to 720, or 8 percent. During this period, there was an 11 percent increase in outpatient ED visits per 1,000 FFS beneficiaries (from 409 to 455) and a 3 percent increase in ED visits resulting in inpatient admissions per 1,000 FFS beneficiaries (from 257 to 264).

- From 2010 to 2017, the number of outpatient ED visits billed at the highest of the five ED payment levels (Level 5) increased as a share of all ED visits, climbing from 20 percent to 29 percent (data not shown). By contrast, during the same period, ED visits coded in the three lowest ED payment levels decreased from 33 percent to 28 percent.

Chart 6-11. Decline in share of Medicare Part A FFS beneficiaries with at least one acute inpatient stay slowed, 2010–2017

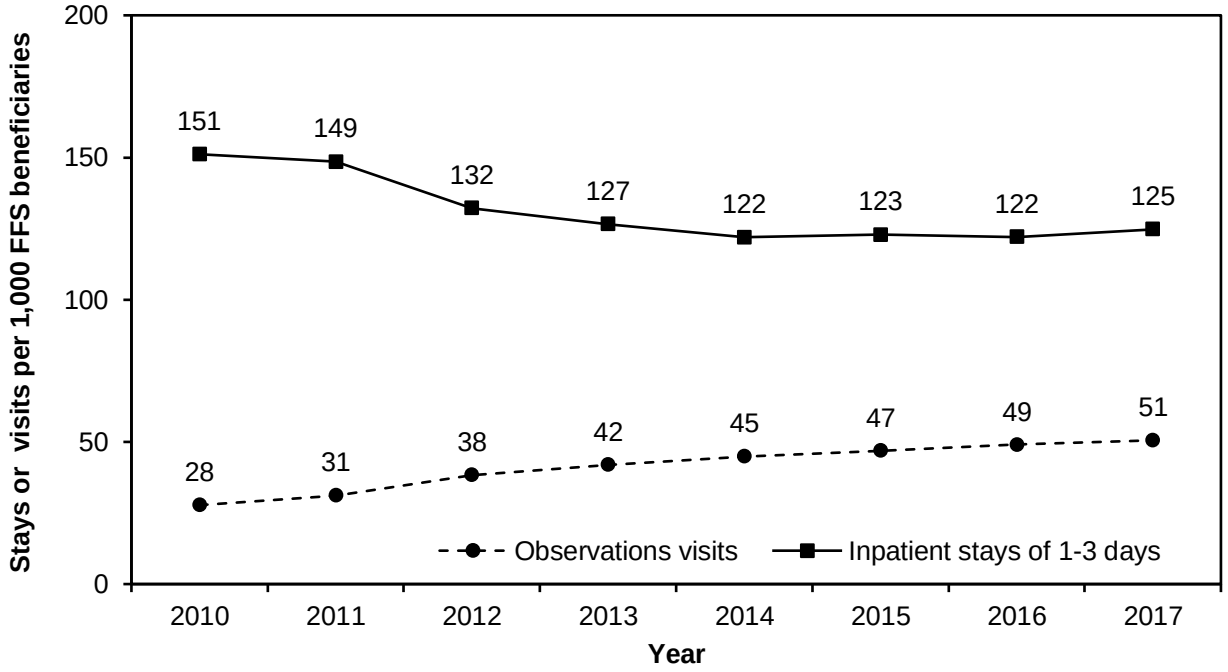


Note: FFS (fee-for-service). Data are for general short-term acute care hospitals covered by the inpatient prospective payment system.

Source: MedPAC analysis of MedPAR data from CMS.

- From 2010 to 2017, the share of Medicare Part A FFS beneficiaries who had at least one acute inpatient stay declined 3 percentage points, from 21.5 percent to 18.5 percent.
- From 2016 to 2017, the share of Medicare Part A FFS beneficiaries who had at least one acute care hospitalization remained steady at 18.5 percent.
- Medicare Part A FFS beneficiaries who had at least one acute care hospitalization in 2017 had an average of 1.68 hospitalizations over the course of the year (data not shown).
- A portion of the long-term decline in beneficiaries' utilization of inpatient services could reflect the increase in the number of cases in which beneficiaries are served in outpatient observation status (see Chart 6-12).

Chart 6-12. Number of outpatient observation visits per Medicare FFS beneficiary increased while short inpatient stays decreased, 2010–2017

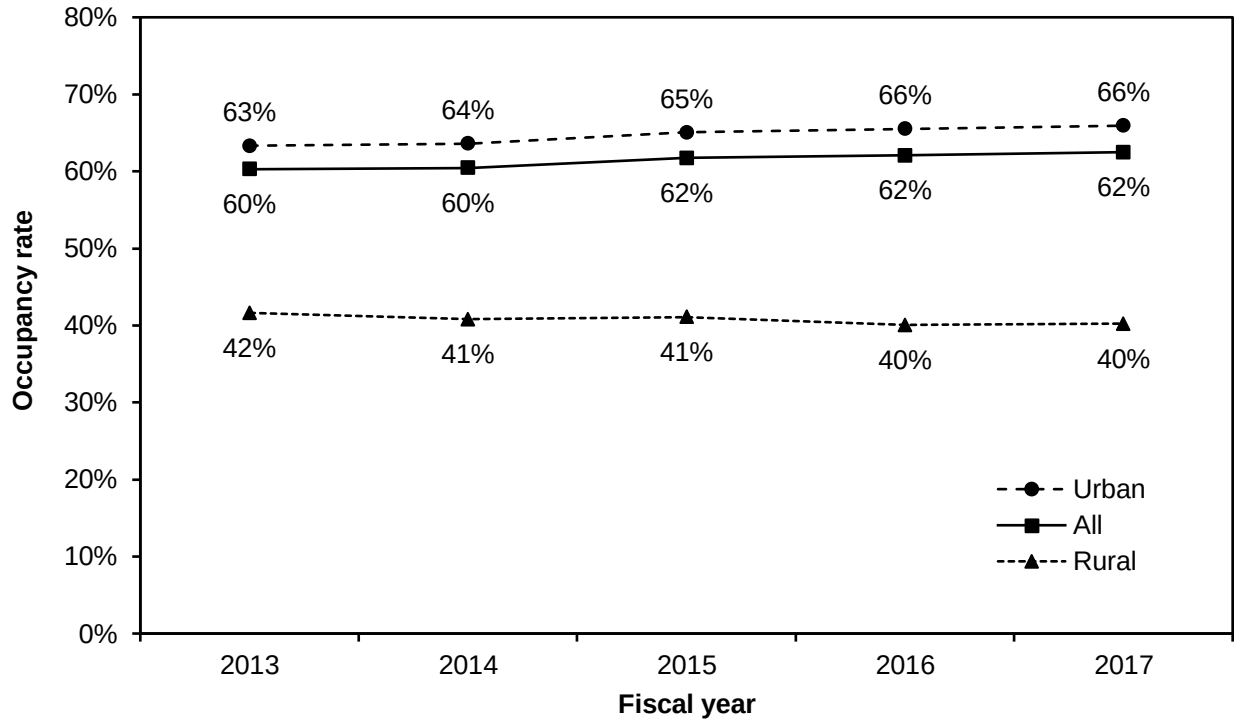


Note: FFS (fee-for-service). Observation visits are payable visits with a length of stay of at least eight hours. Years for outpatient visits are calendar years, and years for inpatient stays are fiscal years. Data for outpatient observation visits include hospitals paid under the outpatient prospective payment system and critical access hospitals; data for inpatient stays include hospitals paid under the inpatient prospective payment system.

Source: MedPAC analysis of standard analytical file outpatient claims and hospital cost report data from CMS.

- In 2017, Medicare beneficiaries had approximately 1.7 million outpatient observation visits and 4.7 million inpatient stays of 1–3 days (data not shown).
- From 2010 to 2017, the number of outpatient observation visits per 1,000 beneficiaries increased by 23 visits. By contrast, the number of inpatient stays of 1–3 days per 1,000 FFS beneficiaries decreased 26 stays over the same period. These trends suggest that outpatient observation visits may account for a portion of the decline in short inpatient stays.
- In 2017, approximately 13 percent of all outpatient observation visits were 48 hours or longer, the same percentage as in 2016 (data not shown).
- Between 2016 and 2017, the number of one-day inpatient stays increased 6 percent (data not shown).

Chart 6-13. Acute care hospital occupancy rates have increased slightly overall but declined slightly at rural hospitals, 2013–2017



Note: Hospital "occupancy rates" are defined as total bed days (including swing bed days) and observation bed days used, minus nursery bed days used, divided by total bed days available. Data are for a consistent cohort of approximately 4,130 general short-term acute care hospitals covered under the inpatient prospective payment system and critical access hospitals.

Source: MedPAC analysis of hospital cost report data from CMS.

- In the aggregate, acute care hospital occupancy rates increased slightly between 2013 and 2017, from 60 percent to 62 percent.
- Occupancy rates are generally higher for urban than rural hospitals, and the differences increased since 2013. Between 2013 and 2017, the aggregate occupancy rate for urban hospitals increased from 63 percent to 66 percent, while the aggregate occupancy rate for rural hospitals decreased from 42 percent to 40 percent.

Chart 6-14. One-fifth of Medicare inpatient PPS payments were from special add-on payments, 2017

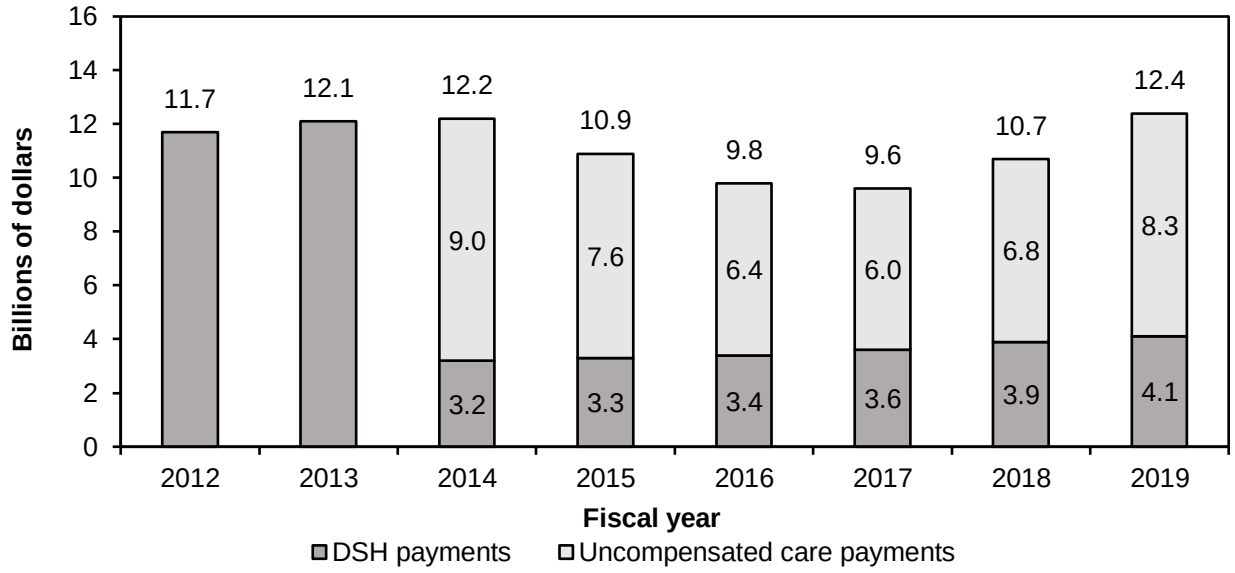
Inpatient PPS hospital group	Share of total inpatient PPS payments						Total payments (millions)
	Base	IME	DSH	UC	Outlier	Additional rural or isolated*	
All PPS	80.7%	5.6%	3.0%	5.0%	4.5%	1.6%	$118,318
Urban	80.8	6.0	3.1	5.2	4.8	0.8	109,061
Rural	80.4	1.0	1.6	2.8	1.1	11.9	9,258
Large urban	80.1	6.6	3.2	5.7	5.2	0.1	55,393
Other urban	81.4	5.4	2.9	4.7	4.3	1.5	53,667
Rural referral	89.2	1.1	3.1	5.1	2.0	0.1	2,024
SCH (federal rate)	81.3	5.1	3.6	5.7	2.4	2.7	1,074
SCH (HSP rate)	74.8	0.0	0.0	0.0	0.2	25.2	4,183
Medicare dependent	79.3	0.1	1.9	3.9	1.1	14.2	824
Other rural, <50 beds	82.5	0.1	2.1	4.8	1.3	9.0	335
Other rural, ≥50 beds	86.0	1.9	2.8	5.8	1.4	2.4	818
Nonprofit	81.4	5.8	2.8	4.5	4.4	1.5	84,217
For-profit	85.1	2.5	3.3	5.7	3.2	1.0	18,890
Government	71.6	8.3	3.5	7.0	6.3	3.0	15,211
Major teaching	67.8	16.0	3.5	6.2	7.0	0.2	31,150
Other teaching	83.5	3.7	3.1	5.0	3.9	1.2	44,975
Nonteaching	87.4	0.0	2.5	4.1	3.2	3.1	42,194

Note: PPS (prospective payment system), IME (indirect medical education), DSH (disproportionate share hospital), UC (uncompensated care), SCH (sole community hospital), HSP (hospital-specific payment). Payments reflect 2017 payment rules applied to actual number of cases in 2017. Component do not sum to totals because other inpatient PPS payment components, such as new technology and quality payments, are not included in table.
*"Additional rural or isolated" payments include SCH, Medicare-dependent hospital, and low-volume add-on payments. For SCHs paid the HSP, this category includes all payments above the federal base rate, including the payments attributable to the costs associated with residency programs, low-income patients, and outlier cases.

Source: MedPAC analysis of MedPAR and impact file data from CMS.

- In 2017, Medicare payments to PPS hospitals for inpatient care to fee-for-service (FFS) beneficiaries were approximately $118 billion.
- Base Medicare severity–diagnosis related group payments accounted for about 81 percent of these payments. Special add-on payments—including IME, DSH, UC, and outlier payments, as well as additional payments to rural or isolated hospitals—accounted for almost 20 percent. Payment adjustments for three quality programs—value-based payments or penalties, penalties for excess readmissions, and penalties for hospital-acquired conditions—reduced payments by about 1 percent (data not shown).
- In 2017, Medicare payments to critical access hospitals (CAHs) for inpatient care of FFS beneficiaries was approximately $2.8 billion (data not shown). Cost-based reimbursement for CAHs results in payments significantly above what CAHs would be paid under the inpatient PPS.

Chart 6-15. After falling to a low in 2017, Medicare disproportionate share and uncompensated care payments to acute care hospitals increased



Note: DSH (disproportionate share hospital). Data are for general hospitals covered by the inpatient prospective payment system. Data represent CMS's estimated operating DSH payments and final uncompensated care payment levels.

Source: CMS hospital inpatient prospective payment systems for acute care hospitals final rules from fiscal years 2012 to 2019.

- In 2012, hospitals received almost $12 billion in aggregate Medicare DSH payments. The traditional DSH payment formula was based on hospitals' share of Medicaid patients and Medicare patients with Supplemental Security Income (SSI).
- Beginning in 2014, DSH payments were calculated as 25 percent of the operating DSH payment the hospital would have received under the traditional DSH formula in effect before 2014. DSH-eligible hospitals are also eligible to receive uncompensated care payments. These payments are calculated as a fixed pool of dollars equal to 75 percent of the estimated total DSH payments hospitals would have received under the traditional DSH formula, times a factor that increases in proportion to the estimated percentage of the population without insurance relative to 2013. These payments are distributed based on the share of uncompensated care each hospital provides.
- Aggregate DSH payments have been approximately $3 billion to $4 billion per year since the policy change and have been increasing steadily. For fiscal year (FY) 2019, CMS has estimated $4.1 billion in DSH payments. The increase in DSH payments between 2018 and 2019 is due to CMS-estimated growth in inpatient discharges for FY 2019 and the annual update to inpatient prospective payment system rates.
- The amount of uncompensated care payments declined about $3 billion between 2014 and 2017 due to declines in the share of the population without insurance. Conversely, uncompensated care payments increased from 2017 to 2019 due to increases in both estimated total DSH payments under the traditional formula and estimated uninsured percentage.
- On net, the sum of DSH and uncompensated care payments increased $0.7 billion between 2012 and 2019 to $12.4 billion.

Chart 6-16. Medicare FFS inpatients discharged from acute care hospitals to home self-care decreased slightly while discharges to post-acute care increased, 2012–2017

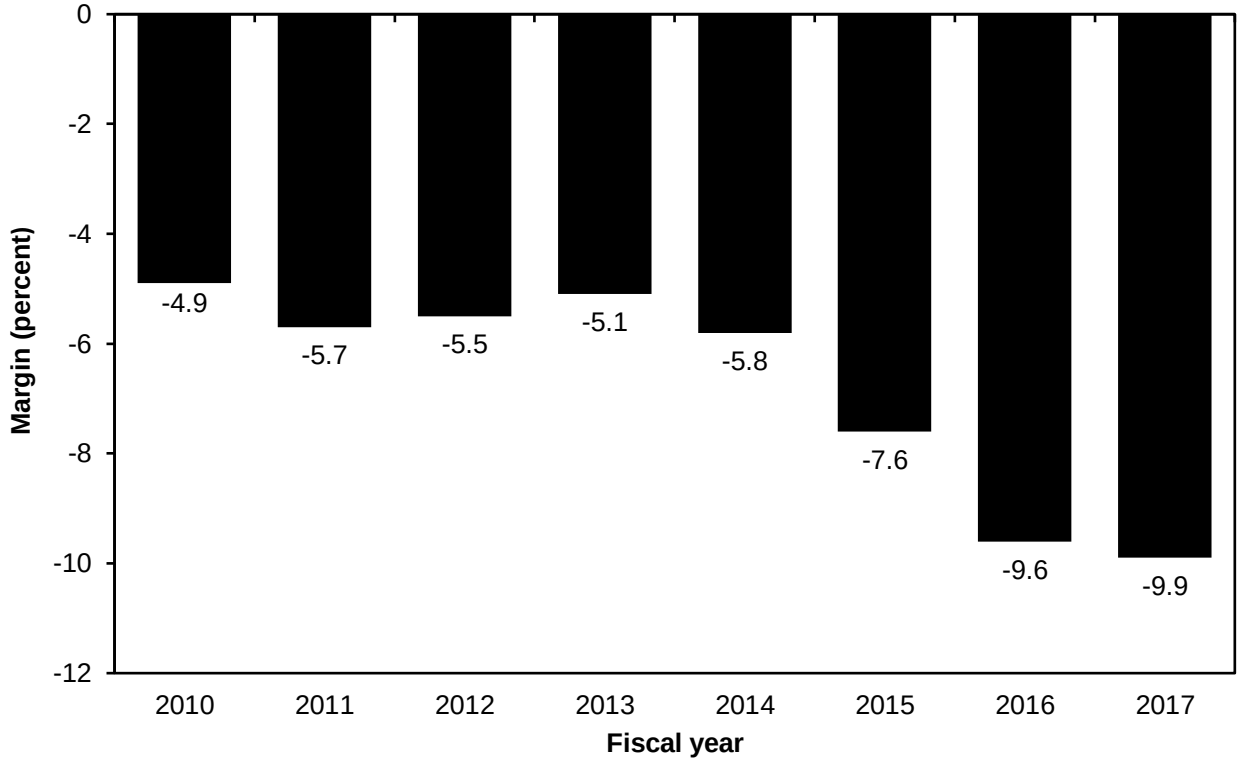
Destination	2012	2016	2017	Percentage point change 2012–2017
Home self-care	48.0%	45.7%	45.3%	–2.7
Post-acute care	40.9	43.2	43.5	2.6
Skilled nursing facility or swing bed	20.3	20.8	20.7	0.4
Home with home health care	15.9	17.2	17.9	2.0
Inpatient rehabilitation facility or unit	3.5	4.0	3.8	0.3
Long-term care hospital	1.2	1.1	1.1	–0.1
Hospice, medical facility or home	2.7	3.0	3.1	0.4
Other inpatient hospital	2.8	2.7	2.7	–0.1
Nursing home or intermediate care facility	1.5	1.3	1.2	–0.2
Died in hospital	3.3	3.2	3.2	–0.1
Left against medical advice	0.8	0.8	0.9	0.1
Other	0.1	0.2	0.1	0.0

Note: FFS (fee-for-service). Data are for discharges from short-term general acute care hospitals. Numbers may not sum due to rounding.

Source: MedPAC analysis of MedPAR data from CMS.

- From 2012 to 2017, the share of FFS inpatients discharged to home under self-care decreased 2.7 percentage points, while the share discharged to post-acute care increased 2.6 percent. The majority of this increase was from those discharged home with organized home health care.
- In 2017, about 45 percent of Medicare FFS inpatients at acute care hospitals were discharged to home under self-care, without any organized post-acute care; and another 43 percent were discharged to post-acute care services.
- In 2017, 0.15 percent of FFS inpatients at acute care hospitals were discharged or transferred with a planned acute care readmission (data not shown).

Chart 6-17. The aggregate Medicare margin for acute care hospitals has decreased since 2010

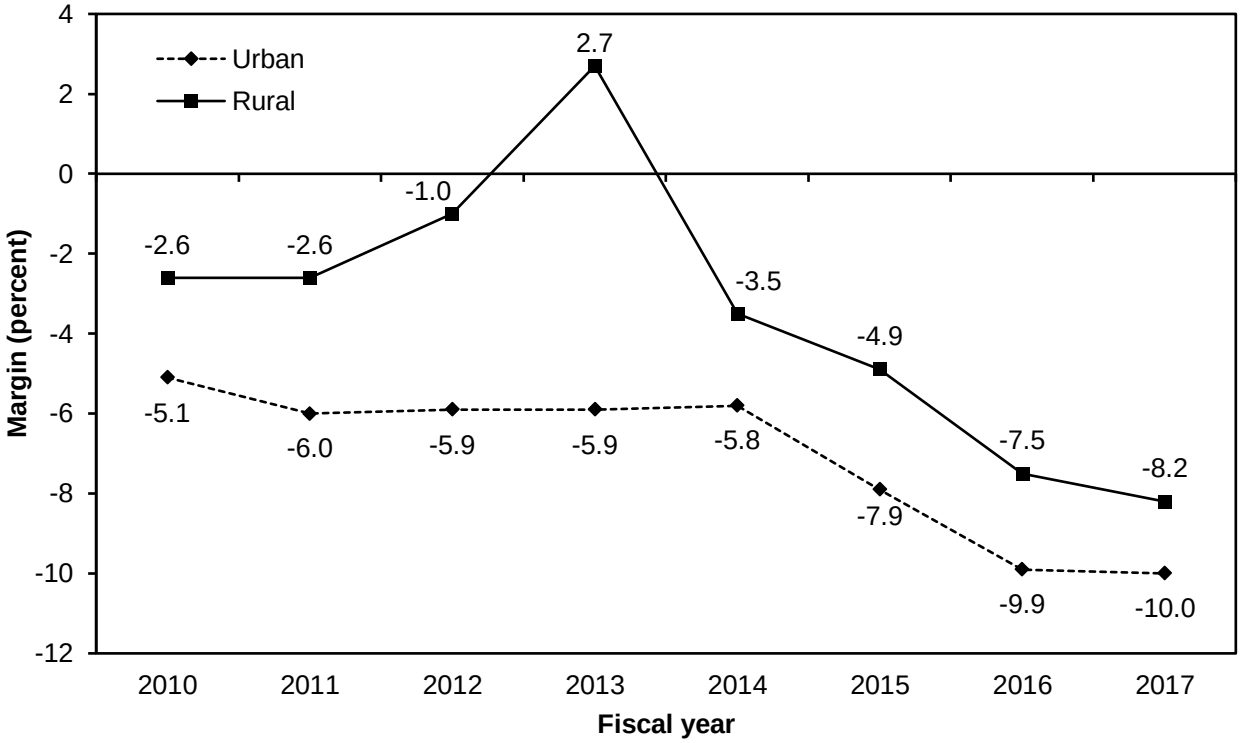


Note: Data are for general short-term acute care hospitals covered by the inpatient prospective payment system and exclude Maryland and critical access hospitals. A margin is calculated as revenue minus costs, divided by revenue. Margins are based on Medicare-allowable costs. Overall Medicare margins cover the costs and payments of acute inpatient, outpatient, inpatient psychiatric and rehabilitation unit, skilled nursing facility, and home health services, as well as graduate medical education, bad debts, Medicare payments for health information technology, and uncompensated care payments.

Source: MedPAC analysis of Medicare cost report data from CMS.

- The aggregate Medicare margin incorporates payments and costs for acute inpatient, outpatient, skilled nursing, home health care, and inpatient psychiatric and rehabilitative services, as well as direct graduate medical education, bad debts, Medicare payments for health information technology, and—starting in 2014—uncompensated care payments.
- The aggregate Medicare margin decreased from –4.9 percent in 2010 to –9.9 percent in 2017.
- In 2017, 25 percent of hospitals had aggregate Medicare margins of 0.6 percent or higher, and another 25 percent had margins of –21.3 percent or lower (data not shown). About 25 percent of hospitals had positive Medicare margins in 2017.

Chart 6-18. Rural hospitals continued to have a higher aggregate Medicare margin than urban hospitals in 2017



Note: Data are for general short-term acute care hospitals covered by the inpatient prospective payment system and exclude Maryland and critical access hospitals. A margin is calculated as revenue minus costs, divided by revenue. Margins are based on Medicare-allowable costs. Overall Medicare margins cover the costs and payments of acute inpatient, outpatient, inpatient psychiatric and rehabilitation unit, skilled nursing facility, and home health services, as well as graduate medical education, bad debts, Medicare payments for health information technology, and uncompensated care payments.

Source: MedPAC analysis of Medicare cost report data from CMS.

- The aggregate Medicare margin was higher for urban hospitals than for rural hospitals before 2004 (data not shown); however, since 2005, the aggregate Medicare margin for rural hospitals has exceeded that for urban hospitals. The higher rural margins reflect special rural add-on payments. In 2017, the difference between urban and rural hospital margins was about 1.8 percentage points.

- The aggregate Medicare margin includes inpatient and outpatient services, but not laboratory services. The rural margin rose to 2.7 percent in 2013 in part because of low-volume add-on payments and health information technology payments. However, in 2014, the rural margin fell to –3.5 percent because some unprofitable services that had been paid as laboratory services shifted into the outpatient payment system. These outpatient tests were a disproportionately large share of rural hospital payments, causing rural margins to fall faster than urban margins.

Chart 6-19. Teaching hospitals had higher aggregate Medicare margins than nonteaching hospitals, 2017

Hospital group	Share of hospitals	Aggregate Medicare margin
All hospitals	100%	–9.9%
Major teaching	11	–9.0
Other teaching	24	–8.2
Nonteaching	65	–12.1
Both teaching and DSH	31	–8.3
Teaching only	3	–15.0
DSH only	53	–11.4
Neither teaching nor DSH	12	–16.1

Note: DSH (disproportionate share hospital). Data are for general short-term acute care hospitals covered by the inpatient prospective payment system and exclude Maryland and critical access hospitals. A margin is calculated as revenue minus costs, divided by revenue. Margins are based on Medicare-allowable costs. Overall Medicare margins cover the costs and payments of acute inpatient, outpatient, inpatient psychiatric and rehabilitation unit, skilled nursing facility, and home health services, as well as graduate medical education, bad debts, Medicare payments for health information technology, and uncompensated care payments. Components may not sum to 100 percent due to rounding.

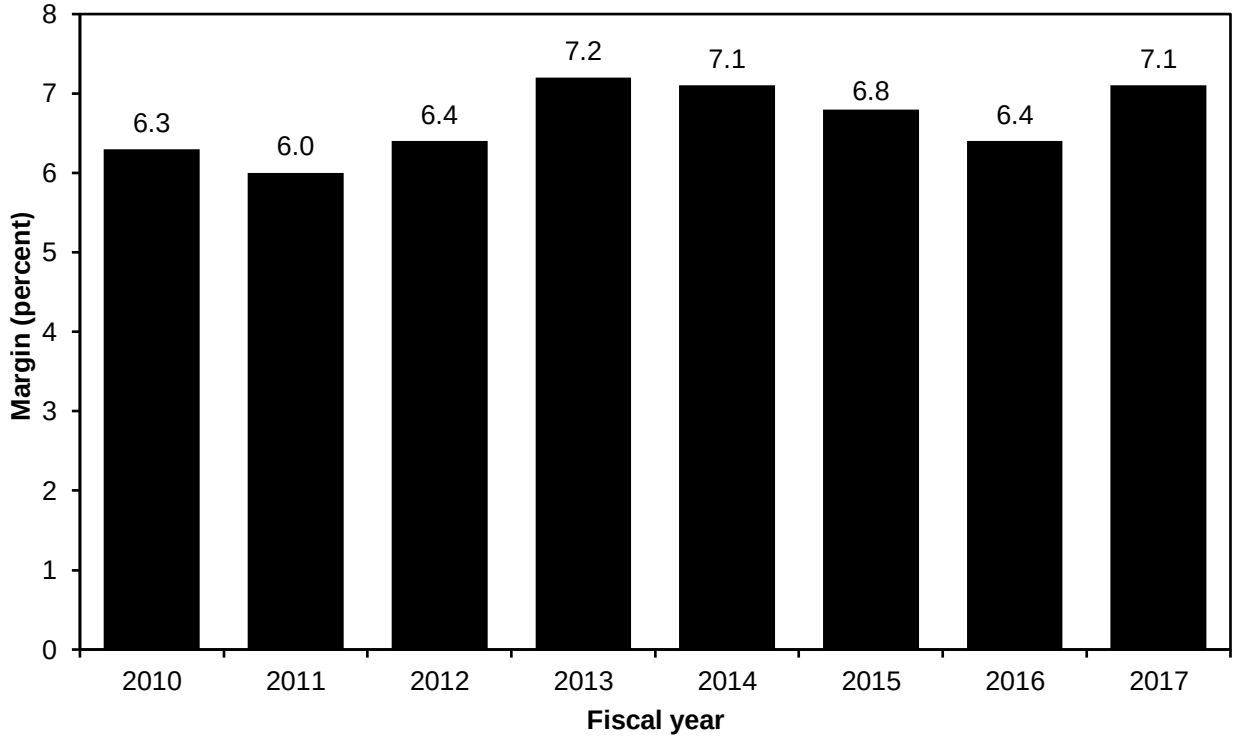
Source: MedPAC analysis of 2017 Medicare cost report data from CMS.

- Teaching hospitals (both major teaching and other teaching) had higher aggregate overall Medicare margins in 2017 compared with nonteaching hospitals. Their better financial performance was largely due to the additional payments they received from the IME and DSH adjustments to their inpatient payments.

- Hospitals that do not receive DSH payments had the lowest aggregate Medicare margin. In 2017, the aggregate Medicare margin of these hospitals was –15.0 percent (hospitals that received IME payments only) and –16.1 percent (hospitals that did not receive either IME or DSH payment), well below the aggregate margin of hospitals that receive both IME and DSH payments (–8.3 percent).

- Teaching hospitals (major teaching and other teaching) have a higher aggregate Medicare margin than nonteaching hospitals, while major teaching hospitals have a lower aggregate total margin than both other teaching and nonteaching hospitals (see Chart 6-22).

Chart 6-20. Hospital aggregate total margin increased in 2017 to 7.1 percent



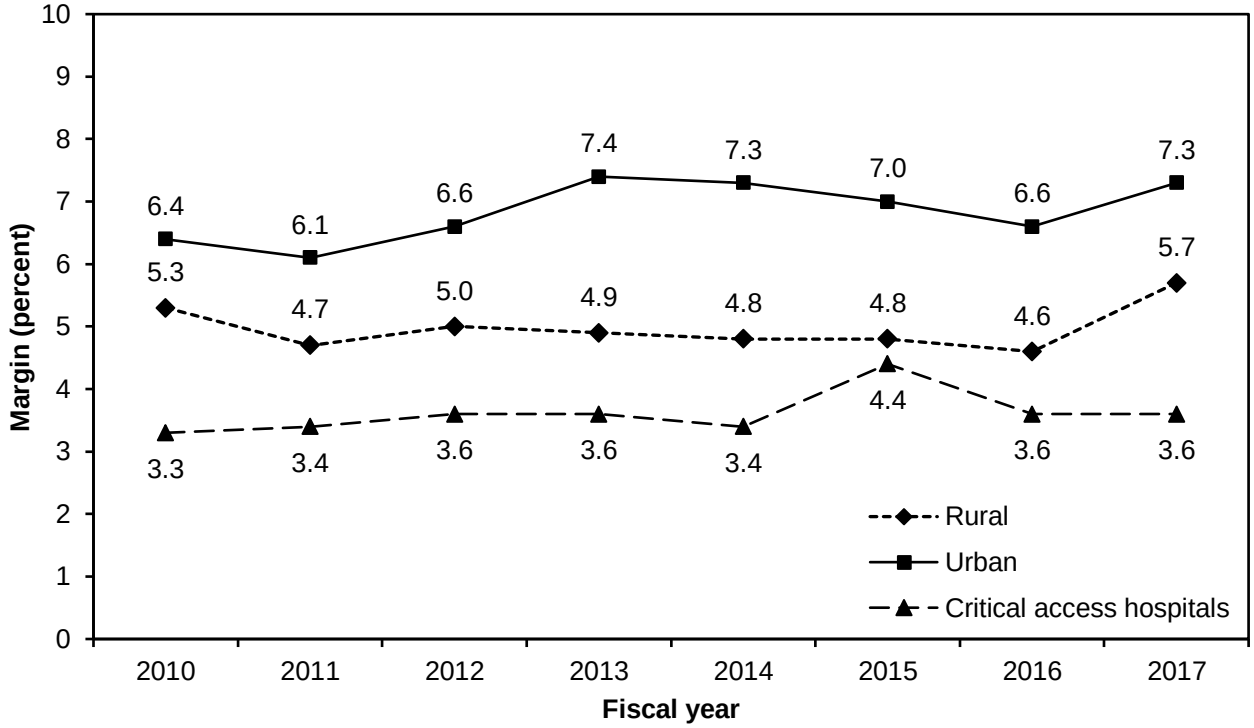
Note: Data are for general short-term acute care hospitals covered by the inpatient prospective payment system and include critical access hospitals. A margin is calculated as revenue minus costs, divided by revenue. "Total margin" includes all patient care services funded by all payers, plus nonpatient revenue such as investment income. Analysis excludes Maryland hospitals.

Source: MedPAC analysis of Medicare cost report data from CMS.

- The aggregate total hospital margin for all payers—Medicare, Medicaid, other government, and private payers—reflects the relationship of all hospital revenues to all hospital costs, including inpatient, outpatient, post-acute, and nonpatient services. The total margin also includes nonpatient revenue such as investment income. Other types of margins we track—including the aggregate Medicare margin—are operating margins that do not include investment income.

- From 2013 to 2015, the aggregate total margin was close to 7 percent, a level higher than the prior two decades. The all-payer margin decreased slightly to 6.4 percent in 2016, but increased to 7.1 percent in 2017.

Chart 6-21. Urban hospitals have the highest aggregate total margin, 2010–2017



Note: Data are for general short-term acute care hospitals covered by the inpatient prospective payment system and include critical access hospitals. A margin is calculated as revenue minus costs, divided by revenue. "Total margin" includes all patient care services funded by all payers, plus nonpatient revenue such as investment income. Analysis excludes Maryland hospitals.

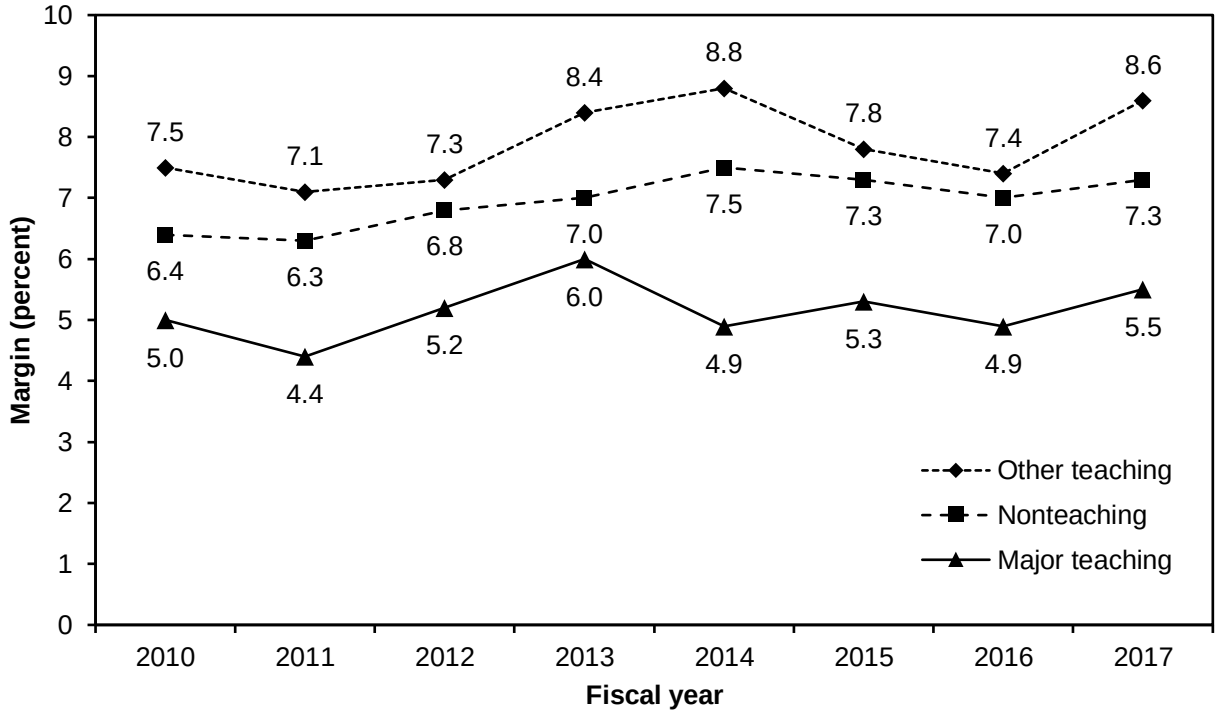
Source: MedPAC analysis of Medicare cost report data from CMS.

- Urban hospitals have a higher aggregate total margin than rural hospitals. In 2017, the aggregate total margin was 7.3 percent for urban hospitals and 5.7 percent for rural hospitals. The rural hospital aggregate total margin of 5.7 percent is the highest margin since 2007 (not all data shown).

- In general, the aggregate total margin for critical access hospitals has historically been lower than for other urban or rural hospitals.

- The aggregate total margin for critical access hospitals generally has remained between 3.3 percent and 3.6 percent since 2010.

Chart 6-22. The hospital aggregate total margin continued to be lower for major teaching hospitals than for other hospitals, 2010–2017



Note: Data are for general short-term acute care hospitals covered by the inpatient prospective payment system and include critical access hospitals. A margin is calculated as revenue minus costs, divided by revenue. Total margin includes all patient care services funded by all payers, plus nonpatient revenue such as investment income. Analysis excludes Maryland hospitals. "Major teaching" hospitals are defined by a ratio of interns and residents to beds of 0.25 or greater, while "other teaching" hospitals have a ratio of greater than 0 and less than 0.25.

Source: MedPAC analysis of Medicare cost report data from CMS.

- The aggregate total margin for major teaching hospitals has consistently been lower than that for other teaching and nonteaching hospitals. In 2017, the aggregate total margin for major teaching hospitals was 5.5 percent, lower than the aggregate total margin for other teaching hospitals (7.3 percent) and nonteaching hospitals (8.6 percent).

- Major teaching hospitals have lower operating margins than other teaching and nonteaching hospitals (data not shown). However, teaching hospitals have a higher aggregate Medicare margin than nonteaching hospitals due in large part to extra payments they receive through indirect medical education and disproportionate share adjustments and uncompensated care payments (see Chart 6-19).

Chart 6-23. Financial pressure leads to lower costs

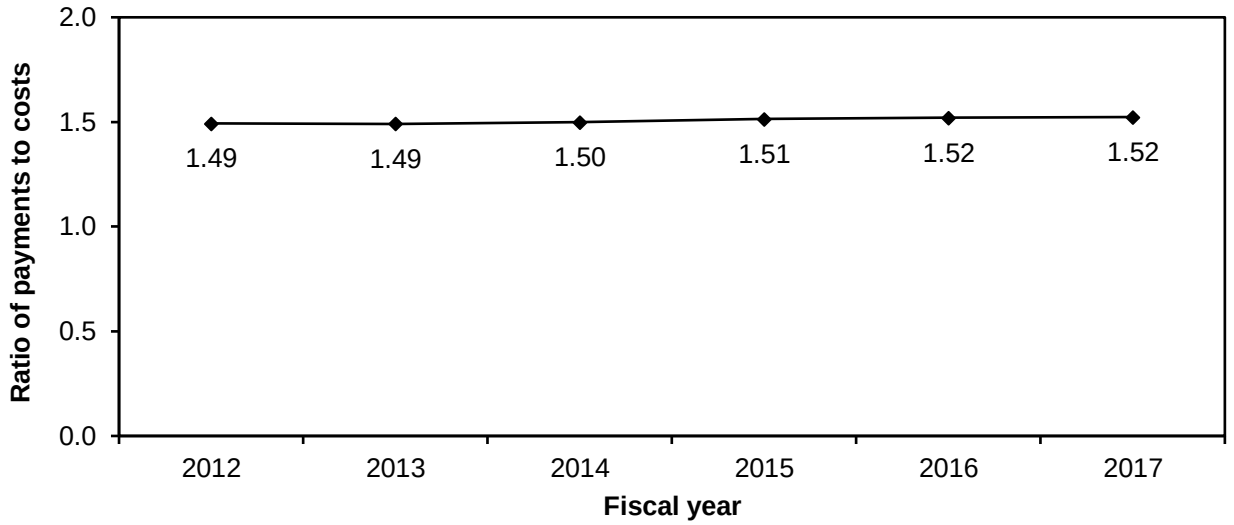
	Level of financial pressure, 2014–2016		
	High pressure (non-Medicare margin ≤ 1%)	Medium pressure	Low pressure (non-Medicare margin > 5%)
Number of hospitals	700	362	1,736
Financial characteristics, 2017 (medians)			
Non-Medicare margin (private, Medicaid, uninsured)	–3%	3%	14%
Standardized cost per discharge (as a share of the national median)			
For-profit and nonprofit hospitals	0.94	0.98	1.03
Nonprofit hospitals	0.95	0.99	1.05
For-profit hospitals	0.88	0.94	0.96
Annual growth in cost per discharge, 2015–2017	2.0%	2.6%	2.3%
Overall 2017 Medicare margin (medians)	–2%	–6%	–11%
Patient characteristics (medians)			
Total hospital discharges in 2017	3,347	6,483	7,872
Medicare share of inpatient days	39%	37%	37%
Medicaid share of inpatient days	8%	7%	6%
Medicare case-mix index	1.43	1.53	1.65

Note: Standardized costs are adjusted for hospital case mix, wage index, outliers, transfer cases, interest expense, and the effect of teaching and low-income Medicare patients on hospital costs. The sample includes all hospitals that had complete cost reports on file with CMS by October 2018. "High-pressure" hospitals are defined as those with a median non-Medicare profit margin of 1 percent or less from 2014 to 2016 and a net worth (assets – liabilities) that grew by less than 1 percent per year over that period if the hospital's Medicare profits had been zero. "Low-pressure" hospitals are defined as those with a median non-Medicare profit margin greater than 5 percent from 2014 to 2016 and a net worth that grew by more than 1 percent per year over that period if the hospital's Medicare profits had been zero. "Medium-pressure" hospitals are those that fit into neither the high- nor the low-pressure categories.

Source: MedPAC analysis of Medicare cost report and claims files from CMS.

- Hospitals under higher financial pressure had 6 percent lower standardized costs per discharge than the national median. For-profit hospitals tended to constrain their costs more than nonprofit hospitals. They had below-average costs even when they had high profit margins.
- Cost growth was similar for all categories of hospitals (between 2.0 percent and 2.6 percent), suggesting that hospitals' cost differentials remain fairly stable across time.
- Hospitals with lower volume, lower case mix, and higher Medicaid and Medicare shares of discharges are more likely to be under financial pressure.

Chart 6-24. Private-payer ratio of payments to costs for hospital services remained relatively flat, 2012–2017

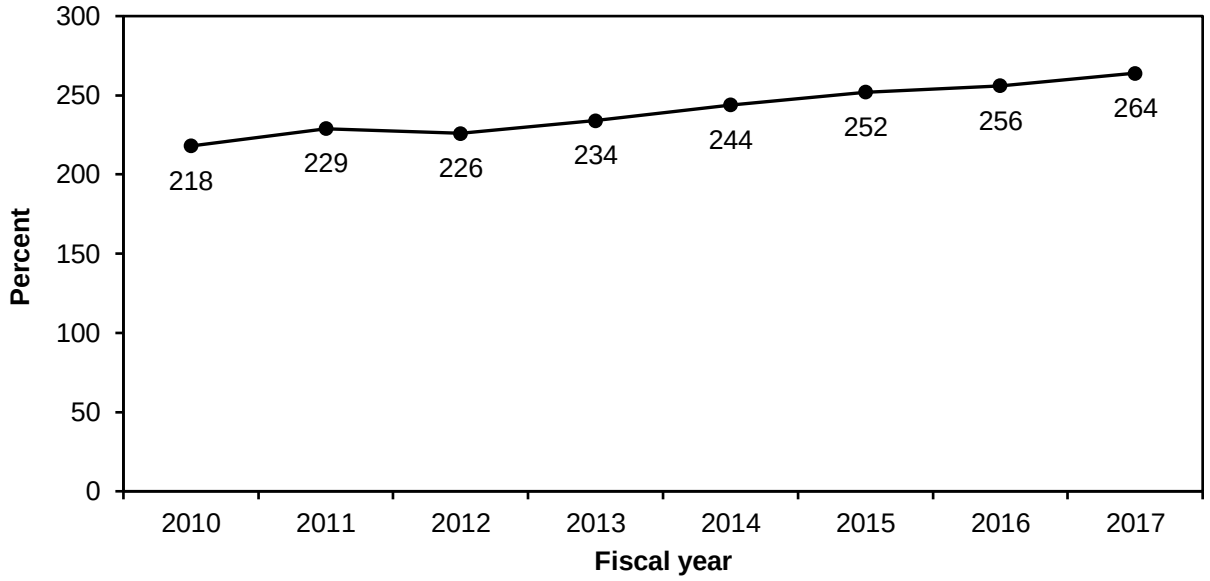


Note: Data are for community hospitals (nonfederal short-term general and specialty hospitals) that responded to the American Hospital Association (AHA) survey and cover all hospital service lines. Data prior to 2017 used AHA's internal methodology to classify facilities as hospitals. Beginning in 2017, AHA changed the definition of *hospital* to include an institution licensed as a general or specialty hospital by the appropriate state agency and accredited by one of the following organizations: The Joint Commission Healthcare Facilities Accreditation Program, DNV Health Accreditation, or the Center for Improvement in Healthcare Quality Accreditation, or a hospital that is Medicare certified as a provider of acute services under Title XVIII of the Social Security Act. As a result of the application of the new, broader hospital definition, the number of community hospitals in 2017 increased by approximately 400.

Source: MedPAC analysis of data from the American Hospital Association Annual Survey of Hospitals.

- The private-payer ratio of payments to costs reflects hospitals' weighted average profit margin for patients without government insurance across all service lines of business (e.g., inpatient, outpatient, and hospital-owned physician practices). In 2017, the ratio of payments to costs was 1.52 among private payers, which includes commercial payers as well as other nongovernment payers and self-pay patients.
    - This ratio was slightly lower (1.45) when including imputed data for hospitals that did not respond to the AHA survey.
    - The ratio of 1.52 understates the payment-to-cost ratio for those with commercial insurance because it is a weighted average of payment-to-cost ratios for those with commercial insurance, other nongovernmental payers, and self-pay patients. Hospitals generally incur losses on self-pay patients, which pulls down the weighted average. Therefore, the payment-to-cost ratio for only those with commercial insurance is substantially higher than 1.52.
- From 2012 to 2017, the private-payer ratio of payments to costs was relatively flat. During this period, total hospital profit margins remained near 7 percent (see Chart 6-20).
    - A flat payment-to-cost ratio across all hospital services does not necessarily mean that commercial prices are rising at the same rate as costs for hospital inpatient or outpatient services. For example, a flat overall payment-to-cost ratio could reflect an increase in inpatient prices relative to costs plus the acquisition of physician practices with lower payment-to-cost ratios (for facility fees and drugs) that are folded into hospitals' outpatient operations.

Chart 6-25. Rapid charge growth caused the markup of charges above costs for Medicare services to increase, 2010–2017



Note: Data are for community hospitals (nonfederal short-term general and specialty hospitals) that responded to the American Hospital Association (AHA) survey, and cover all hospital service lines. Markups for Medicare services are calculated as the percentage by which charges exceed costs for patients with fee-for-service Medicare. Data prior to 2017 used AHA's methodology to classify facilities as hospitals. Beginning in 2017, AHA changed the definition of *hospital* to include an institution licensed as a general or specialty hospital by the appropriate state agency and accredited by one of the following organizations: The Joint Commission Healthcare Facilities Accreditation Program, DNV Health Accreditation, or the Center for Improvement in Healthcare Quality Accreditation, or a hospital that is Medicare certified as a provider of acute services under Title XVIII of the Social Security Act. As a result of the application of the new, broader hospital definition, the number of community hospitals in 2017 increased by approximately 400.

Source: MedPAC analysis of data from American Hospital Association Annual Survey of Hospitals.

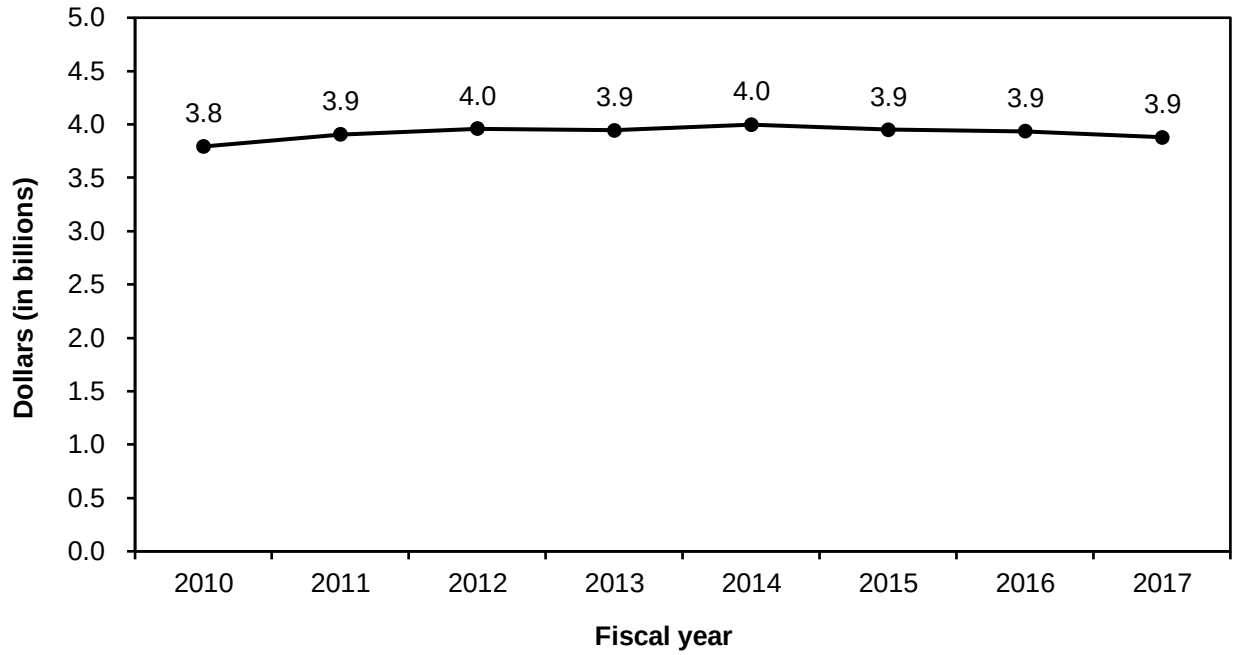
- The markup of hospitals' charges above costs for Medicare services reflects the percent by which charges exceed costs across all service lines of business for patients with fee-for-service Medicare. In 2017, the markup for Medicare services was 264 percent, reflecting hospital charges ($786 billion) that were over three times costs ($216 billion) (data not shown).

- The markup of charges over costs for Medicare services in 2017 was higher among urban hospitals (275 percent) than among rural hospitals (184 percent) (data not shown).

- Among both urban and rural hospitals in 2017, the markup of charges over costs among for-profit hospitals was approximately two times higher than the markup among nonprofit or government-owned hospitals (data not shown).

- From 2010 to 2017, the average markup of hospitals' charges above costs for Medicare services rose from 218 percent to 264 percent. Rapid growth in charges may have little impact on hospital financial performance because few patients pay full charges. However, charge growth may significantly affect uninsured patients, who may pay full charges. More rapid growth in charges (relative to growth in costs) may reflect hospitals' attempts to maximize revenue from private payers (who often structure their payments as a discount off charges).

Chart 6-26. Medicare payments to inpatient psychiatric facilities have been relatively flat, 2007–2017



Note: These fiscal year–incurred data represent only program spending; they do not include beneficiary cost sharing. Spending for inpatient psychiatric care furnished in scatter beds in acute care hospitals (and paid for under the acute care inpatient prospective payment system) is not included in this chart.

Source: CMS Office of the Actuary.

- Medicare pays for inpatient psychiatric facility (IPF) care under the IPF prospective payment system.
- Medicare program spending for beneficiaries' care in IPFs grew less than 1 percent per year, on average, between 2010 and 2017.

Chart 6-27. A growing share of inpatient psychiatric facilities are for-profit, 2010–2017

Type of IPF	2010	2013	2016	2017	Average annual change 2010–2013	2013–2016	2016–2017
All	1,596	1,573	1,595	1,589	–0.5%	0.5%	–0.4
Urban	1,261	1,238	1,258	1,255	–0.6	–0.5	–0.2
Rural	334	334	335	331	0.0	0.1	–1.2
Freestanding	447	463	500	508	1.2	2.6	1.6
Hospital-based units	1,149	1,110	1,095	1,081	–1.1	–0.5	–1.3
Nonprofit	807	749	733	733	–2.5	–0.7	0.0
For profit	386	467	514	516	6.6	3.3	0.4
Government	403	357	348	340	–4.0	–0.9	–2.3

Note: IPF (inpatient psychiatric facility). Data are from facilities that submitted valid Medicare cost reports in the given fiscal year. Components may not sum to totals due to missing data.

Source: MedPAC analysis of Medicare cost report files from CMS.

- Between 2010 and 2013, the number of IPFs that filed Medicare cost reports fell, on average, 0.5 percent per year. However, between 2013 and 2016, the supply of IPFs recovered, growing, on average, 0.5 percent per year. In 2017, the number of IPFs fell 0.4 percent.

- A growing share of Medicare IPF users receive care in for-profit facilities. Between 2010 and 2013, the number of for-profit IPFs grew nearly 7 percent per year, on average. Over the same period, the number of nonprofit IPFs fell more than 2 percent per year, on average. The number of for-profit IPFs continued to grow through 2016, while the number of nonprofit IPFs declined. In 2017, the numbers of for-profit and nonprofit facilities remained relatively stable.

Chart 6-28. Almost three-quarters of IPF patients were classified into one diagnosis group, 2017

MS–DRG	Diagnosis	Share
885	Psychosis	71.8%
884	Organic disturbances and mental retardation	7.0
057	Degenerative nervous system disorders without MCC	6.2
897	Alcohol/drug abuse or dependency, no rehabilitation, without MCC	4.6
881	Depressive neurosis	3.7
895	Alcohol/drug abuse or dependency with rehabilitation, without MCC	1.6
882	Neurosis except depressive	1.3
880	Acute adjustment reaction and psychosocial dysfunction	0.9
883	Disorders of personality and impulse control	0.7
056	Degenerative nervous system disorders with MCC	0.6
894	Alcohol/drug use—left AMA	0.3
886	Behavioral and developmental disorders	0.2
896	Alcohol/drug abuse or dependency without rehabilitation, with MCC	0.2
876	OR procedure with principal diagnosis of mental illness	0.1
887	Other mental disorders	0.1
081	Nontraumatic stupor and coma without MCC	<0.1
080	Nontraumatic stupor and coma with MCC	<0.1
	Nonpsychiatric MS–DRGs	0.8
	Total	100.0

Note: IPF (inpatient psychiatric facility), MS–DRG (Medicare severity–diagnosis related group), MCC (major comorbidity or complication), AMA (against medical advice), OR (operating room). Totals may not sum to 100 percent due to rounding.

Source: MedPAC analysis of Medicare Provider Analysis and Review data from CMS.

- Medicare patients in IPFs are generally assigned 1 of 17 psychiatric MS–DRGs.
- The most frequently occurring IPF diagnosis—accounting for about 72 percent of IPF discharges in 2017—was psychosis. This broad category includes patients with principal diagnoses of schizophrenia, bipolar disorder, and major depression.
- In 2017, the next most common discharge diagnosis, accounting for 7 percent of IPF cases, was organic disturbances and mental retardation.

Chart 6-29. A majority of IPF users are under the age of 65, 2017

Characteristic	Share of all IPF users	Share of users with more than one IPF stay
Current eligibility status		
Aged	42.1%	29.3%
Disabled	57.8	70.6
ESRD only	0.1	0.1
Age		
<45	23.0	30.6
45–64	34.3	39.4
65–79	27.8	22.0
80+	14.9	8.0
All	100.0	27.8

Note: IPF (inpatient psychiatric facility), ESRD (end-stage renal disease). Components may not sum to totals due to rounding. The "aged" category includes beneficiaries ages 65 and older without ESRD. The "disabled" category includes beneficiaries under age 65 without ESRD. The "ESRD only" category includes beneficiaries with ESRD, regardless of age.

Source: MedPAC analysis of MedPAR data from CMS.

- Of Medicare beneficiaries who had at least one IPF stay in 2017, 57.8 percent qualified for Medicare because of a disability. These beneficiaries tend to be younger and poorer than the typical fee-for-service beneficiary.
- Approximately 28 percent of Medicare beneficiaries who used an IPF in 2017 had more than one IPF stay during the year. These beneficiaries were far more likely than all IPF users to be disabled, often because of a psychiatric diagnosis.

SECTION 7

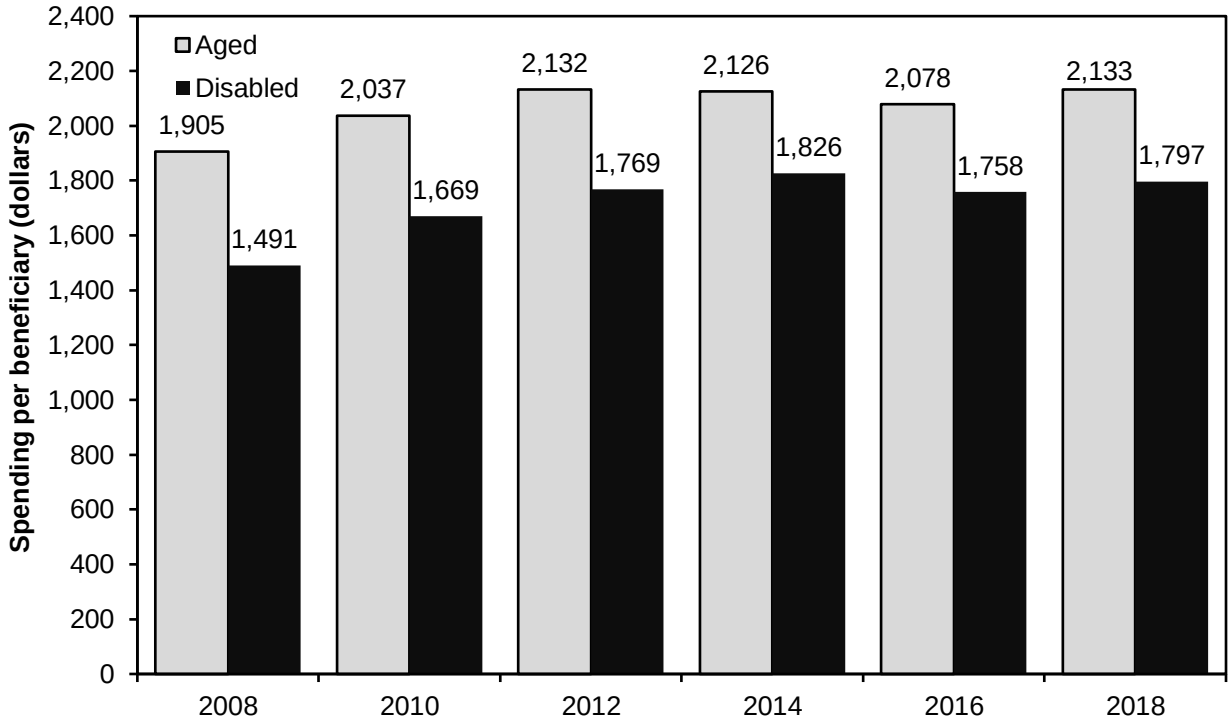
Ambulatory care

Physicians and other health professionals

Hospital outpatient services

Ambulatory surgical centers

Chart 7-1. Medicare spending per fee-for-service beneficiary on services in the fee schedule for physicians and other health professionals, 2008–2018



Note: Dollar amounts are Medicare spending only and do not include beneficiary cost sharing. The category "disabled" excludes beneficiaries who qualify for Medicare because they have end-stage renal disease. All beneficiaries ages 65 and over are included in the "aged" category.

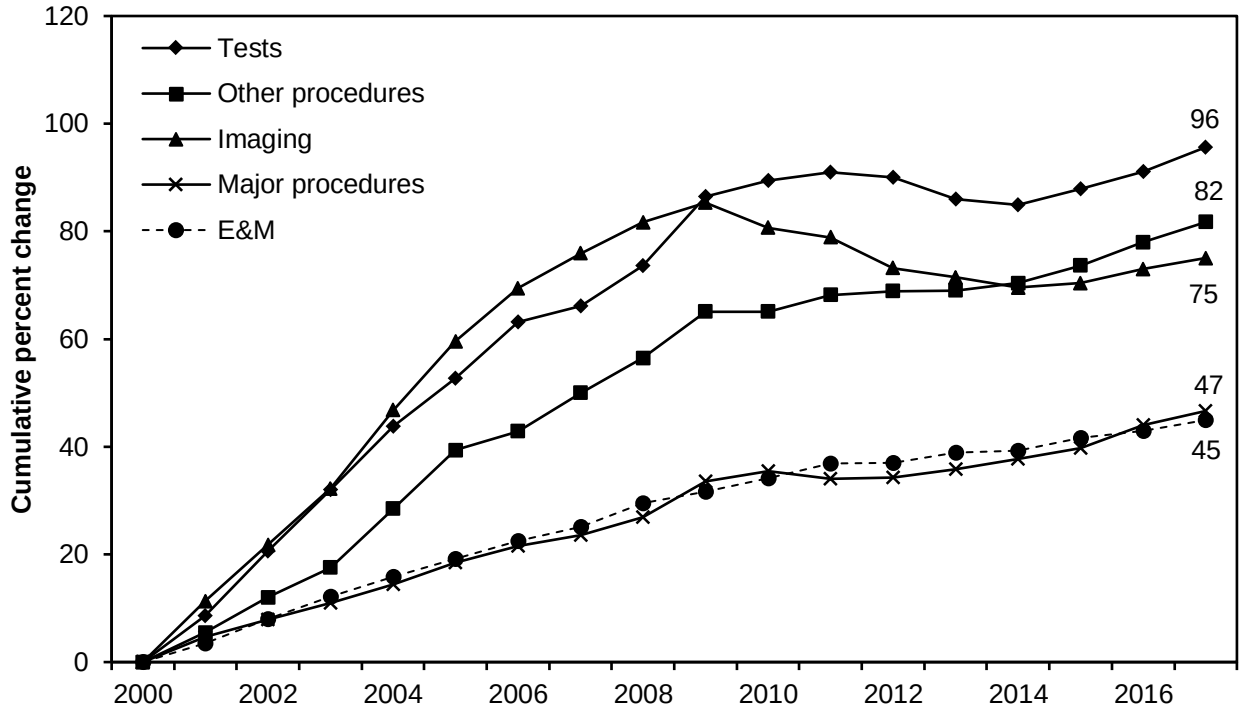
Source: The annual report of the Boards of Trustees of the Medicare trust funds 2019.

- The fee schedule for physicians and other health professionals includes a broad range of services such as office visits, surgical procedures, and diagnostic and therapeutic services. "Other health professionals" refers to nurse practitioners, physician assistants, physical therapists, and other clinicians. Total fee schedule spending was $70.5 billion in 2018.

- Spending per fee-for-service beneficiary for fee schedule services increased between 2008 and 2012, declined between 2012 and 2016, and began growing again after 2016. From 2008 to 2018, spending per beneficiary (across aged and disabled beneficiaries) grew at a cumulative rate of 13 percent.

- Per capita spending for disabled beneficiaries (under age 65) is lower than per capita spending for aged beneficiaries (ages 65 and over). In 2018, for example, per capita spending for disabled beneficiaries was $1,797 compared with $2,133 for aged beneficiaries. However, spending per capita grew much faster for disabled beneficiaries than aged beneficiaries between 2008 and 2018.

Chart 7-2. Growth in the volume of clinician services per fee-for-service beneficiary, 2000–2017



Note: E&M (evaluation and management). "Volume" refers to the units of service multiplied by relative value units (RVUs) from the fee schedule for physicians and other health professionals. RVUs account for the relative costliness of the inputs used to provide clinician services. Volume for all years is measured on a common scale, using RVUs for 2017. Volume growth for E&M from 2009 to 2010 is not directly observable because of a change in payment policy for consultations. To compute cumulative volume growth for E&M through 2017, we used a growth rate for 2009 to 2010 of 1.85 percent, which is the average of the 2008 to 2009 growth rate of 1.7 percent and the 2010 to 2011 growth rate of 2.0 percent.

Source: MedPAC analysis of claims data for 100 percent of Medicare beneficiaries.

- Volume growth reflects changes in both the number of services and the complexity (or intensity) of services. From 2000 to 2017, the volume of some services furnished by physicians and other health professionals grew much faster than others.

- The volume of tests grew by 96 percent, the volume of "other procedures" (i.e., other than major procedures) grew by 82 percent, and the volume of imaging grew by 75 percent. The comparable growth rates for major procedures and for evaluation and management services were only 47 percent and 45 percent, respectively.

- Volume growth increases Medicare spending, limiting funds available for other priorities in the federal budget and requiring taxpayers and beneficiaries to contribute more to the Medicare program. Rapid volume growth may be a sign that some services in the fee schedule for physicians and other health professionals are mispriced.

Chart 7-3. Medicare beneficiaries' ability to get timely appointments with physicians was comparable with privately insured individuals, 2015–2018

	Medicare (ages 65 and older)				Private insurance (ages 50–64)			
Survey question	2015	2016	2017	2018	2015	2016	2017	2018
Unwanted delay in getting an appointment: Among those who needed an appointment, "How often did you have to wait longer than you wanted to get a doctor's appointment?"								
For routine care								
Never	72%[a]	68%	73%[ab]	70%[ab]	69%[ab]	67%[b]	69%[ab]	64%[a]
Sometimes	19[a]	22[b]	20	20[a]	23[ab]	23[b]	22[b]	26[a]
Usually	4	4	3[b]	5	4	5	4	5
Always	3	3	3	3[a]	3	4	3	4[a]
For illness or injury								
Never	82[ab]	79[a]	80[a]	79[a]	77[ab]	75[a]	76[a]	74[a]
Sometimes	13[ab]	16[a]	15	15[a]	17[a]	19[a]	18	19[a]
Usually	3[b]	2[ab]	2	2	3	3[a]	2[b]	3
Always	2	2[ab]	1[b]	2	2	3[a]	2	2

Note: Numbers may not sum to 100 percent due to rounding and to missing responses ("Don't Know" or "Refused") not being presented. Overall sample sizes for each group (Medicare and privately insured) were 4,000 in all years. Sample sizes for individual questions varied.
[a] Statistically significant difference (at a 95 percent confidence level) between the Medicare and privately insured samples in the given year.
[b] Statistically significant difference (at a 95 percent confidence level) from 2018 within the same insurance coverage category.

Source: MedPAC-sponsored annual telephone surveys conducted 2015–2018.

- Most Medicare beneficiaries have one or more doctor appointments in a given year. Their ability to schedule timely appointments is one indicator of access that we examine.
- Medicare beneficiaries (ages 65 and older) report similar (or better) access to physicians for appointments as compared with privately insured individuals ages 50 to 64. For example, in 2018, 70 percent of Medicare beneficiaries compared with 64 percent of privately insured individuals reported "never" having to wait longer than they wanted to get an appointment for routine care.
- Medicare beneficiaries reported slightly more timely appointments for injury and illness as compared with their privately insured counterparts.
- Appointment scheduling for illness and injury is better than for routine care appointments for both Medicare beneficiaries and privately insured individuals.

Chart 7-4. Medicare and privately insured patients who were looking for a new physician reported more difficulty finding one in primary care, 2015–2018

	Medicare (ages 65 and older)				Private insurance (ages 50–64)			
Survey question	2015	2016	2017	2018	2015	2016	2017	2018
Looking for a new physician: "In the past 12 months, have you tried to get a new …?" (Percent answering "Yes")								
Primary care physician	7%[ab]	8%[ab]	9%[a]	10%	9%[a]	10%[a]	11%[a]	10%
Specialist	16[b]	18	17[a]	19[a]	18[b]	18[b]	20[a]	21[a]
Getting a new physician: Among those who tried to get an appointment with a new physician, "How much of a problem was it finding a primary care doctor/specialist who would treat you? Was it …"								
Primary care physician								
No problem	67	64	69[a]	71	63	63	59[ab]	67
Small problem	18	15	13	13	18	16	18	16
Big problem	14	20	14[a]	14	17	20	22[a]	16
Specialist								
No problem	87[a]	82	83	84	82[a]	79	81	80
Small problem	7	10	11[b]	7	8	9	11	9
Big problem	6	8[a]	5[a]	8	9	11[a]	8[a]	10

Note: Numbers may not sum to 100 percent due to rounding and to missing responses ("Don't Know" or "Refused") not being presented. Overall sample sizes for each group (Medicare and privately insured) were 4,000 in all years. Sample sizes for individual questions varied.
[a] Statistically significant difference (at a 95 percent confidence level) between the Medicare and privately insured samples in the given year.
[b] Statistically significant difference (at a 95 percent confidence level) from 2018 within the same insurance coverage category.

Source: MedPAC-sponsored annual telephone surveys, conducted 2015–2018.

- In 2018, only 10 percent of Medicare beneficiaries and 10 percent of privately insured individuals reported looking for a new primary care physician. This finding suggests that most people were either satisfied with their current physician or did not need to look for one.
- Of the 10 percent of Medicare beneficiaries who looked for a new primary care physician in 2018, 28 percent reported problems finding one: 14 percent reported their problem as "big," and 13 percent reported their problem as "small." Although this finding means that only 3 percent of the total Medicare population reported problems finding a primary care physician, the Commission is concerned about the continuing pattern of greater problems accessing primary care than specialty care.
- Of the 10 percent of privately insured individuals who looked for a new primary care physician in 2018, 32 percent reported problems finding one: 16 percent reported their problem as "big," and 16 percent reported their problem as "small."
- In 2018, Medicare beneficiaries and privately insured individuals were more likely to report problems accessing a new primary care physician than a new specialist.

Chart 7-5. Medicare beneficiaries' access to physician care was comparable with privately insured individuals, and minorities in both groups reported unwanted delays more frequently, 2018

	Medicare (ages 65 and older)			Private insurance (ages 50–64)		
Survey question	All	White	Minority	All	White	Minority
Unwanted delay in getting an appointment: Among those who needed an appointment, "How often did you have to wait longer than you wanted to get a doctor's appointment?"						
For routine care						
Never	70%[a]	71%[ab]	65%[b]	64%[a]	65%[ab]	61%[b]
Sometimes	20[a]	20[a]	21[a]	26[a]	25[a]	29[a]
Usually	5	5	5	5	5	4
Always	3[a]	2[ab]	5[b]	4[a]	4[ab]	6[b]
For illness or injury						
Never	79[a]	80[ab]	75[b]	74[a]	75[ab]	71[b]
Sometimes	15[a]	15[a]	15[a]	19[a]	19[a]	22[a]
Usually	2	2	3	3	3	4
Always	2	2	3	2	2[b]	3[b]

Note: Numbers may not sum to 100 percent due to rounding and to missing responses ("Don't Know" or "Refused") not being presented. Overall sample size for each group (Medicare and privately insured) was 4,000 in 2018. Sample size for individual questions varied.
[a] Statistically significant difference (at a 95 percent confidence level) between the Medicare and privately insured populations in the given category.
[b] Statistically significant difference (at a 95 percent confidence level) by race within the same insurance category.

Source: MedPAC-sponsored telephone surveys conducted in 2018.

- In 2018, Medicare beneficiaries (ages 65 and older) reported better access to physicians for appointments in comparison with privately insured individuals ages 50 to 64.
- Access varied by race, with minorities more likely than Whites to report access problems in both insurance categories. For example, in 2018, 80 percent of White Medicare beneficiaries reported "never" having to wait longer than they wanted to get an appointment for an illness or injury compared with 75 percent of minority beneficiaries.

Chart 7-6. Minorities in Medicare were more likely to report problems finding a new specialist than White beneficiaries, 2018

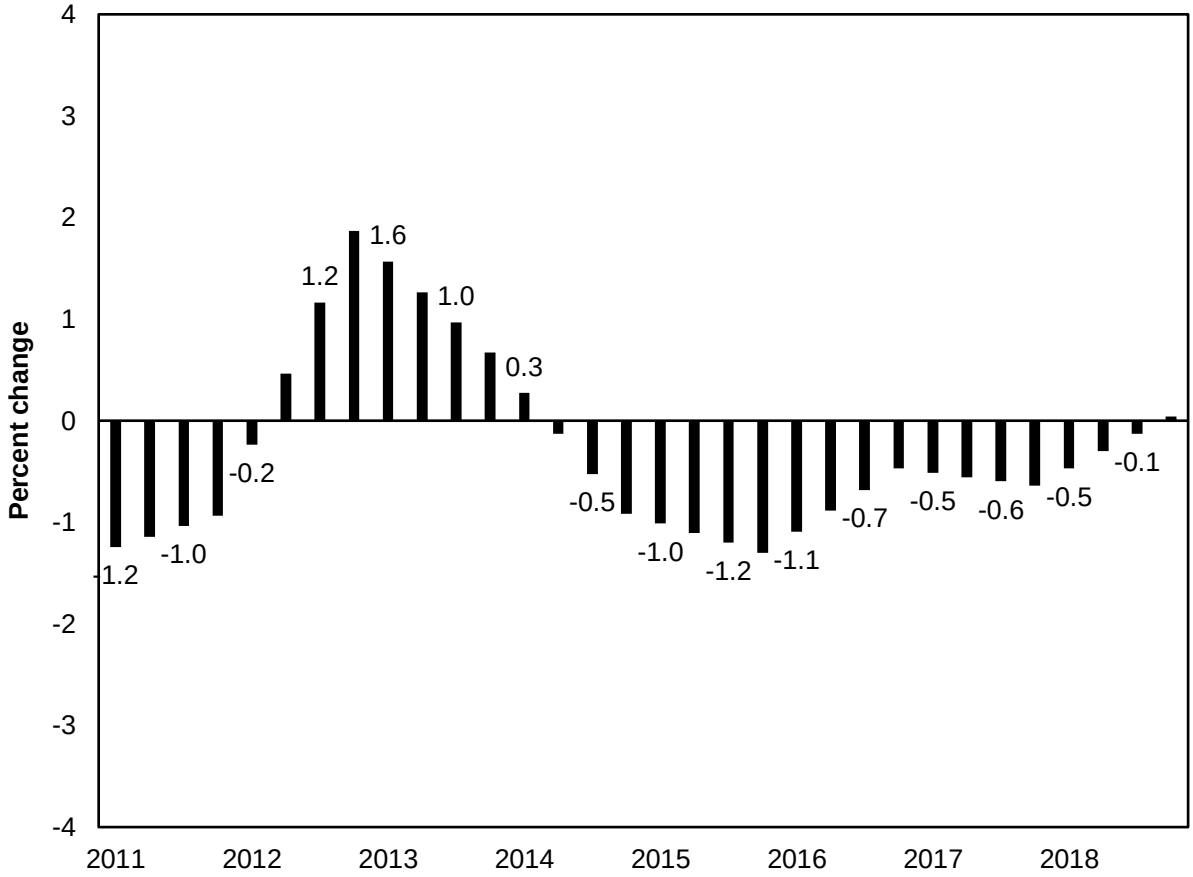
	Medicare (ages 65 and older)			Private insurance (ages 50–64)		
Survey question	All	White	Minority	All	White	Minority
Looking for a new physician: "In the past 12 months, have you tried to get a new …?"						
Primary care physician	10%	10%	9%	10%	9%	11%
Specialist	19[a]	20[b]	15[b]	21[a]	23[b]	19[b]
Getting a new physician: Among those who tried to get an appointment with a new physician, "How much of a problem was it finding a primary care doctor/specialist who would treat you? Was it …"						
Primary care physician						
No problem	71	71	69	67	72[b]	59[b]
Small problem	13	14	14	16	15	17
Big problem	14	15	14	16	14[b]	23[b]
Specialist						
No problem	84	86[b]	77[b]	80	82[b]	74[b]
Small problem	7	7	10	9	9	11
Big problem	8	7[b]	13[b]	10	8[b]	13[b]

Note: Numbers may not sum to 100 percent due to rounding and to missing responses ("Don't Know" or "Refused") not being presented. Overall sample size for each group (Medicare and privately insured) was 4,000 in 2018. Sample size for individual questions varied.
[a] Statistically significant difference (at a 95 percent confidence level) between the Medicare and privately insured populations in the given category.
[b] Statistically significant difference (at a 95 percent confidence level) by race within the same insurance category.

Source: MedPAC-sponsored telephone surveys conducted in 2018.

- Among the share of Medicare beneficiaries looking for a specialist, minorities were more likely than Whites to report problems finding one. This pattern also held for privately insured individuals ages 50 to 64.

Chart 7-7. Changes in physicians' professional liability insurance premiums, 2011–2018



Note: Bars represent a four-quarter moving average percentage change.

Source: CMS, Office of the Actuary. Data are from CMS's Professional Liability Physician Premium Survey.

- Professional liability insurance (PLI) accounts for 4.3 percent of total payments under the fee schedule for physicians and other health professionals.
- Changes in PLI premiums reflect a cyclical pattern, alternating between periods of low premiums (characterized by high investment returns for insurers and vigorous competition) and high premiums (characterized by declining investment returns and market exit).
- Premiums increased from 2002 through the first quarter of 2007 (data not shown) and then declined from the second quarter of 2007 through the first quarter of 2012. Premiums grew slowly from the second quarter of 2012 through the first quarter of 2014, after which they declined through the third quarter of 2018.

Chart 7-8. Number of E&M office visits billed by APRNs or PAs grew rapidly from 2010 to 2017

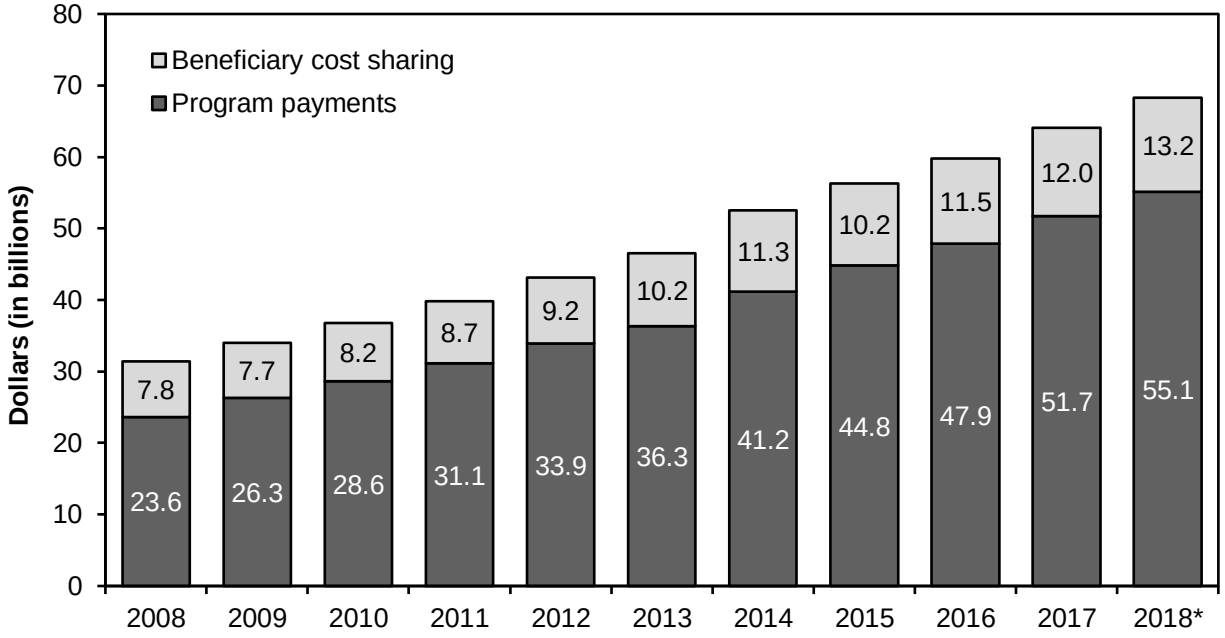
Practitioner type	Number of visits (in millions)								Percent change, 2010–2017
	2010	2011	2012	2013	2014	2015	2016	2017	
APRN or PA	11	13	15	18	20	24	28	31	184%
Primary care physician	97	95	93	91	88	86	84	81	–16
Specialist	133	134	136	142	140	141	143	141	6
Total	241	242	244	251	249	251	255	253	5

Note: E&M (evaluation and management), APRN (advanced practice registered nurse), PA (physician assistant). E&M office visits include HCPCS codes 99201–99205 and 99211–99215. The primary care physician category includes internal medicine, family medicine, pediatric medicine, geriatric medicine, and (in 2017) hospitalists. Many physicians who previously billed under the internal medicine specialty began billing as hospitalists when Medicare introduced a hospitalist specialty code in April 2017. The change does not affect these results because hospitalists billed relatively few E&M office visits in 2017. The specialist category is defined as not being a primary care physician, APRN, or PA. Numbers may not sum to total due to rounding. These figures do not account for "incident to" billing.

Source: MedPAC analysis of the Physician/Supplier Procedure Summary file.

- From 2010 to 2017, the number of E&M office visits billed by APRNs and PAs increased from 11 million to 31 million, an increase of 184 percent.
- Over the same period, the number of E&M office visits billed by primary care physicians decreased by 16 percent; the number billed by specialists increased by 6 percent.
- The rapid increase in E&M office visits billed by APRNs and PAs underscores the growing role APRNs and PAs play in providing care to Medicare beneficiaries.

Chart 7-9. Spending on hospital outpatient services covered under the outpatient PPS, 2008–2018



Note: PPS (prospective payment system). Spending amounts are for services covered by the Medicare outpatient PPS. They do not include services paid on separate fee schedules (e.g., ambulance services and durable medical equipment) or those paid on a cost basis (e.g., corneal tissue acquisition and flu vaccines) or payments for clinical laboratory services, except those packaged into payment bundles.
*Estimated figures.

Source: CMS, Office of the Actuary.

- The Office of the Actuary estimates that spending under the outpatient PPS was $68.3 billion in 2018 ($55.1 billion in program spending, $13.2 billion in beneficiary copayments). We estimate that the outpatient PPS accounted for about 7 percent of total Medicare program spending in 2018.
- Overall spending by Medicare and beneficiaries on hospital outpatient services covered under the outpatient PPS from calendar years 2008 to 2018 increased by 117 percent, an average of 8.1 percent per year. The Office of the Actuary projects continued growth in total spending, averaging 10.0 percent per year from 2018 to 2020.
- Beneficiary cost sharing under the outpatient PPS includes the Part B deductible and coinsurance for each service. Under the outpatient PPS, beneficiary cost sharing was about 19 percent in 2018.

Chart 7-10. Most hospitals provide outpatient services

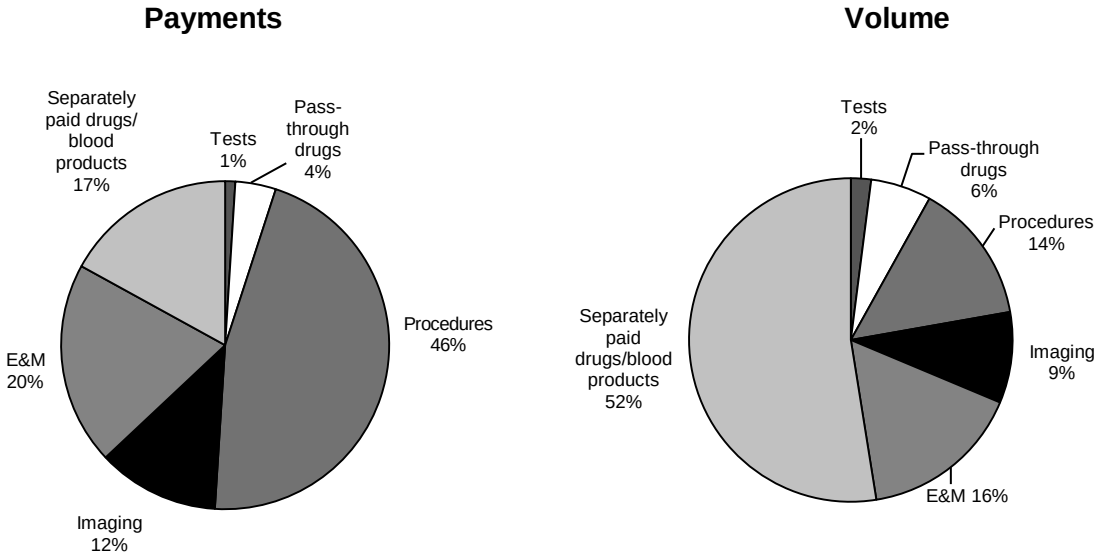
Year	Acute care hospitals	Share offering		
		Outpatient services	Outpatient surgery	Emergency services
2008	3,607	94	87	N/A
2010	3,518	95	90	N/A
2012	3,483	95	91	93%
2014	3,429	96	92	93
2016	3,370	96	93	93
2017	3,346	96	93	92
2018	3,301	96	93	90

Note: N/A (not applicable). We list emergency services from 2008 through 2010 as "N/A" because the data source we used in this chart changed the variable for identifying hospitals' provision of emergency services. We believe this change in variable definition makes it appear that the share of hospitals providing emergency services increased sharply from 2010 to 2012, but we question whether such a large increase actually occurred. This chart includes services provided or arranged by acute care short-term hospitals and excludes long-term, Christian Science, psychiatric, rehabilitation, children's, critical access, and alcohol/drug hospitals.

Source: Medicare Provider of Services files from CMS.

- The number of hospitals that furnish services under Medicare's outpatient prospective payment system has declined slowly since 2008, from 3,607 in 2008 to 3,301 in 2018.
- The share of hospitals providing outpatient services remained stable, and the share offering outpatient surgery steadily increased from 2008 through 2014 and has remained stable since then. The share offering emergency services declined slightly from 2016 to 2018.

Chart 7-11. Payments and volume of services under the Medicare hospital outpatient PPS, by type of service, 2017



Note: PPS (prospective payment system), E&M (evaluation and management). "Payments" include both program spending and beneficiary cost sharing. We grouped services into the following categories, according to the Berenson-Eggers Type of Service codes developed by CMS: evaluation and management, procedures, imaging, and tests. "Pass-through drugs" and "separately paid drugs/blood products" are classified by their payment status indicator.

Source: MedPAC analysis of standard analytic file of outpatient claims for 2017.

- Hospitals provide many types of services in their outpatient departments, including emergency and clinic visits, imaging and other diagnostic services, laboratory tests, and ambulatory surgery.
- The payments for services are distributed differently from volume. For example, in 2017, procedures accounted for 46 percent of payments but only 14 percent of volume.
- Procedures (e.g., endoscopies, surgeries, and skin and musculoskeletal procedures) accounted for the greatest share of payments for services (46 percent) in 2017, followed by evaluation and management services (20 percent), separately paid drugs and blood products (17 percent), and imaging services (12 percent).
- Payments for pass-through drugs increased substantially from 2016 to 2017, from 2 percent of all payments in 2016 (data not shown) to 4 percent of all payments in 2017. Pass-through drugs are new drugs that have been approved by the FDA; were not paid under Medicare's hospital outpatient payment system before January 1, 1997; and have been determined to have costs that are not insignificant in relation to the outpatient PPS payment rate for the applicable service. Statute allows drugs to have pass-through status for two to three years.

Chart 7-12. Hospital outpatient services with the highest Medicare expenditures, 2017

APC title	Share of payments	Volume (thousands)	Payment rate
Total	54%		
All emergency visits	7	13,470	$309
Clinic visits	6	31,737	107
Comprehensive observation services	6	1,456	2,223
Level 3 endovascular procedures	3	203	9,752
Level 2 ICD and similar procedures	2	44	30,527
Level 3 drug administration	2	6,638	180
Level 4 musculoskeletal procedures	2	218	5,222
Level 1 endovascular procedures	2	387	2,834
Level 3 electrophysiologic procedures	2	61	16,785
Level 2 imaging without contrast	2	8,404	113
Level 3 radiation therapy	1	1,755	495
Level 1 intraocular lens procedures	1	476	1,824
Level 4 imaging without contrast	1	1,855	450
Level 3 nuclear medicine and related services	1	725	1,139
Level 3 imaging without contrast	1	3,557	226
Level 1 laparoscopy and related procedures	1	192	4,119
Level 2 lower GI procedures	1	973	878
Level 3 pacemaker and similar procedures	1	79	9,414
Level 4 endovascular procedures	1	53	14,782
Level 5 urology and related services	1	193	3,484
Level 4 drug administration	1	2,193	279
Level 1 imaging with contrast	1	2,325	265
Level 1 upper GI procedures	1	955	700
Level 2 vascular procedures	1	247	2,361
Level 1 imaging without contrast	1	9,427,678	60
Level 2 excision/biopsy/incision and drainage	1	442,335	1,237
Level 4 nuclear medicine and related services	1	396	1,322
Average APC		579	166

Note: APC (ambulatory payment classification), ICD (implantable cardioverter-defibrillator), GI (gastrointestinal). The payment rate for "all emergency visits" is a weighted average of payment rates for 10 emergency visit APCs (not listed on this chart). The shares of payments for the 27 APC categories do not add to the total share of payments (54 percent) because of rounding. The average APC figures in the last line represent averages for all APCs.

Source: MedPAC analysis of 100 percent analytic files of outpatient claims for calendar year 2017.

- Although the outpatient prospective payment system covers thousands of services, expenditures are concentrated in a few categories that have high volume, high payment rates, or both.

Chart 7-13. Off-campus provider-based departments provided a mix of services different from on-campus outpatient departments, 2017

Off-campus PBDs		On-campus outpatient departments	
APC	Share of OPPS revenue	APC	Share of OPPS revenue
Clinic visits	18.0%	Observation services	6.0%
Level 4 drug administration	2.5	Clinic visits	4.4
Level 4 imaging without contrast	2.2	Level 3 endovascular procedures	3.6
Level 3 radiation therapy	2.2	Level 4 ED visits	3.1
Level 3 nuclear medicine	2.1	Level 5 ED visits	2.9
Level 2 imaging without contrast	2.0	Level 2 ICD procedures	2.5
Level 3 imaging without contrast	1.6	Level 3 drug administration	2.1
Level 1 intraocular procedures	1.3	Level 4 musculoskeletal procedures	2.0
Level 4 nuclear medicine	1.2	Level 1 endovascular procedures	2.0
Level 2 skin procedures	1.2	Level 3 electrophysiologic procedures	1.9

Note: PBD (provider-based department), APC (ambulatory payment classification), OPPS (outpatient prospective payment system), ED (emergency department), ICD (implantable cardioverter-defibrillator), GI (gastrointestinal).

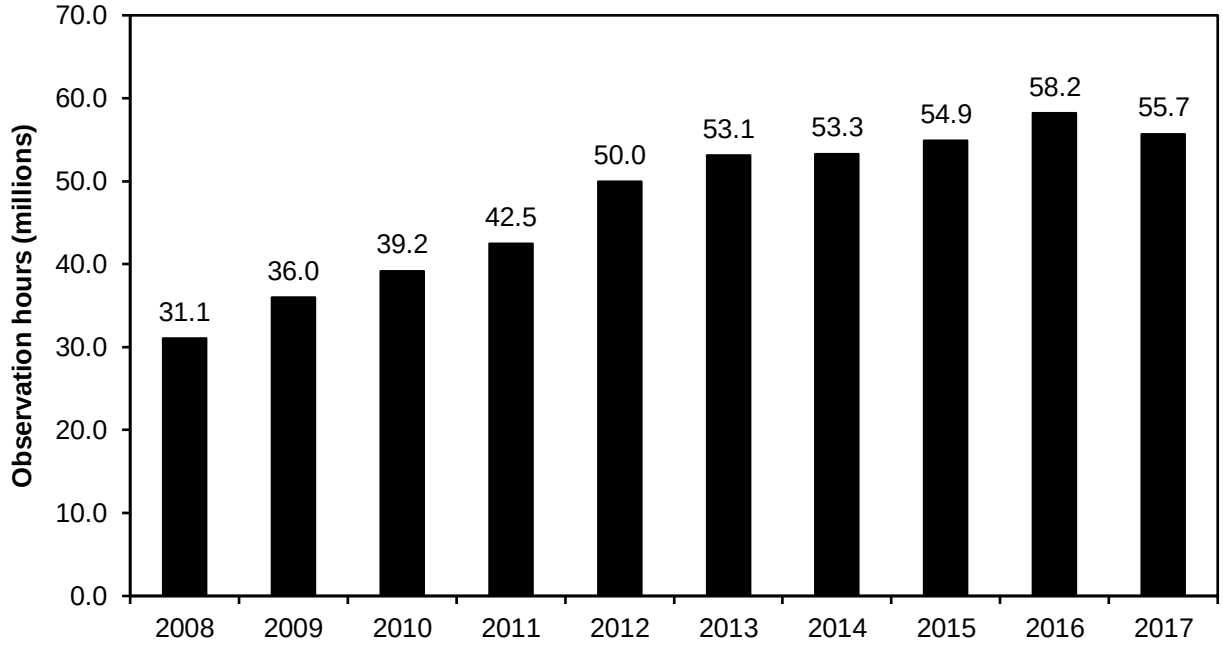
Source: MedPAC analysis of hospital outpatient standard analytic claims files from 2017.

- PBDs of hospitals provide a mix of services that is different from the mix provided in on-campus outpatient departments. In 2017, only 1 of the 10 APCs that had the highest Medicare revenue in off-campus PBDs was also 1 of the 10 highest Medicare revenue APCs in on-campus outpatient departments (clinic visits).

- The services that have the highest Medicare revenue in off-campus PBDs are clinic visits, imaging without contrast, and drug administration. The services that have the highest Medicare revenue in on-campus outpatient departments, however, are observation care, clinic visits, ED visits, and relatively complex procedures such as endovascular procedures and implanting cardioverter-defibrillators. On average, services provided in off-campus PBDs are much less complex than services provided in on-campus outpatient departments. In 2017, the average relative weight was 2.18 for services provided in off-campus PBDs and 5.00 for services provided in on-campus outpatient departments (data not shown).

- Cancer treatment is a predominant source of Medicare revenue in off-campus PBDs, as Level 4 drug administration—which includes chemotherapy administration—and Level 3 radiation therapy are among the largest sources of Medicare revenue in that setting. Additionally, 32.6 percent of the Medicare revenue in off-campus PBDs is from drugs used in cancer treatment, primarily chemotherapy drugs.

Chart 7-14. Number of hospital outpatient observation hours declined in 2017 after nearly a decade of steady increases



Source: MedPAC analysis of Limited Data Set claims for the outpatient prospective payment system 2008–2017.

- Hospitals use observation care to determine whether a patient should be hospitalized for inpatient care, transferred to an alternative treatment setting, or sent home.
- On April 1, 2002, Medicare began providing separate payments to hospitals for some observation services. Previously, the observation services were packaged into the payments for the emergency department or clinic visits that occurred with observation care.
- The number of hospital outpatient observation hours (both packaged and separately paid) has increased substantially, from about 31 million in 2008 to more than 58 million in 2016, but decreased to about 56 million in 2017. The decrease from 2016 to 2017 is reflective of a decrease in the number of observation stays of long duration (more than 48 hours), which is consistent with an increase over the same period in the number of short inpatient stays.

Chart 7-15. Number of Medicare-certified ASCs increased by 9 percent, 2011–2017

	2011	2012	2013	2014	2015	2016	2017
Medicare payments (billions of dollars)	$3.4	$3.6	$3.7	$3.8	$4.1	$4.3	$4.6
New centers (during year)	195	176	177	187	167	159	189
Closed or merged centers (during year)	127	114	117	119	106	90	60
Net total number of centers (end of year)	5,154	5,216	5,276	5,344	5,405	5,474	5,603
Net percent growth in number of centers	1.5%	1.2%	1.2%	1.3%	1.1%	1.3%	2.4%
Share of all centers that are:							
For profit	94	94	94	94	94	94	94
Nonprofit	4	4	4	4	4	4	4
Government	3	3	3	3	3	2	2
Urban	92	93	93	93	93	93	93
Rural	8	7	7	7	7	7	7

Note: ASC (ambulatory surgical center). Medicare payments include program spending and beneficiary cost sharing for ASC facility services. Some figures do not match to Chart 7-16 in our 2018 Databook because CMS updated our source file, the Provider of Services file. Some totals may not sum to 100 percent due to rounding.

Source: MedPAC analysis of Provider of Services file from CMS 2017. Payment data are from CMS, Office of the Actuary.

- ASCs are distinct entities that furnish ambulatory surgical services not requiring an overnight stay in a hospital. The most common ASC procedures are cataract removal with lens insertion, upper gastrointestinal endoscopy, colonoscopy, and nerve procedures.

- Total Medicare payments per fee-for-service (FFS) Medicare beneficiary for ASC services increased by approximately 4 percent per year, on average, from 2011 through 2017 (data not shown). Payments per FFS beneficiary that was served in an ASC grew by 5.3 percent per year during this period. From 2016 to 2017, total payments rose by 7.4 percent, and payments per beneficiary grew by 7.7 percent (per beneficiary data not shown).

- The number of Medicare-certified ASCs grew at an average annual rate of 1.4 percent from 2011 through 2017. From 2011 through 2017, an average of 179 new facilities entered the market, while an average of 105 closed or merged with other facilities.

- Compared with earlier years (not shown), the number of ASCs grew slowly from 2011 through 2017. The slower growth may reflect the substantially higher rates that Medicare pays for ambulatory surgical services provided in hospital outpatient departments than in ASCs, the very slow growth of national health care spending and Medicare spending, and the significant increase in hospital employment of physicians.

SECTION 8

Post-acute care

Skilled nursing facilities
Home health services
Inpatient rehabilitation facilities
Long-term care hospitals

Chart 8-1. The number of post-acute care providers decreased slightly in 2018

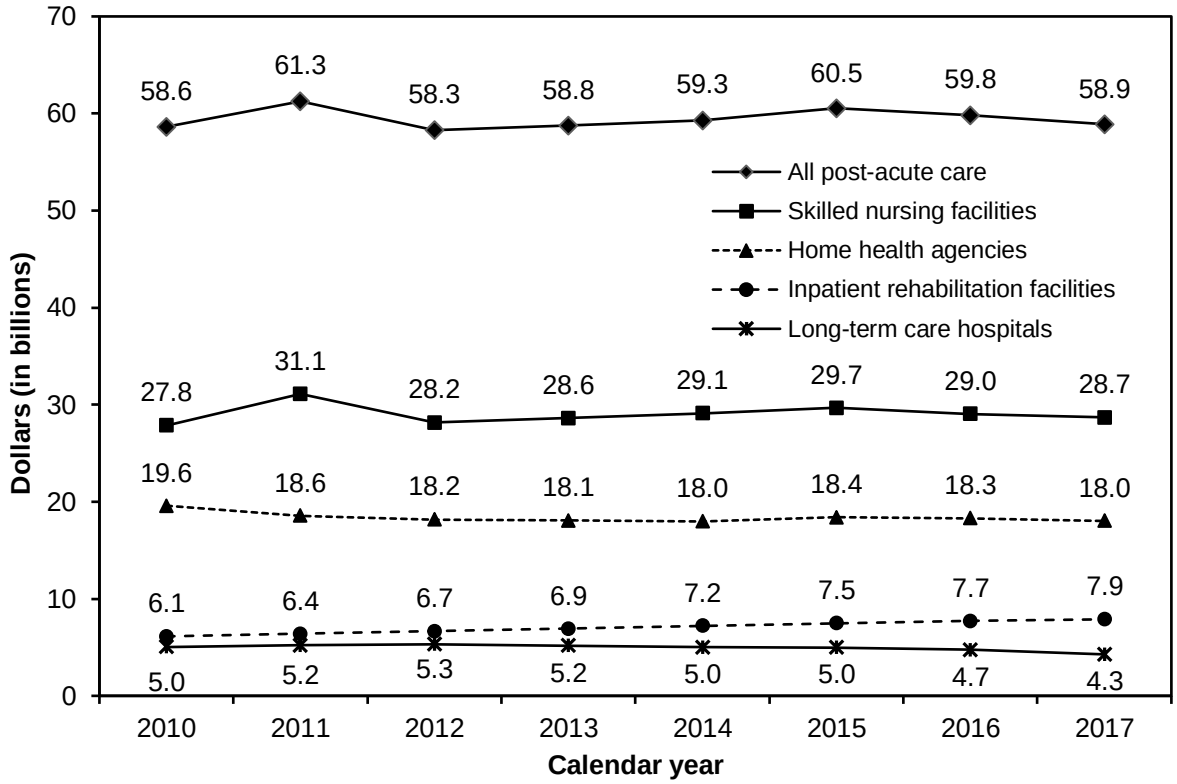
	2014	2015	2016	2017	2018	Average annual percent change 2014–2018	Percent change 2017–2018
Home health agencies	12,461	12,346	12,204	11,844	11,783	–1.4%	–0.5%
Inpatient rehabilitation facilities	1,177	1,182	1,188	1,178	1,170	–0.1	–0.7
Long-term care hospitals	422	426	423	411	386	–2.2	–6.1
Skilled nursing facilities	15,173	15,223	15,263	15,277	15,230	0.1	–0.3

Note: The skilled nursing facility count does not include swing beds.

Source: MedPAC analysis of data from the Provider of Services files from CMS.

- The number of home health agencies has been declining since 2013 after several years of substantial growth (data not shown). The decline in agencies was concentrated in Texas and Florida, two states that saw considerable growth after the implementation of the home health prospective payment system in October 2000.
- The supply of inpatient rehabilitation facilities (IRFs) has been relatively stable since 2014. Most IRFs are distinct units in acute care hospitals; about one-quarter are freestanding facilities. However, because freestanding IRFs tend to have more beds, they account for about half of Medicare discharges from IRFs.
- After peaking in 2012 (data not shown), the number of long-term care hospitals (LTCHs) has decreased. The number of LTCHs declined more rapidly following the implementation of a new "dual payment-rate structure" that reduces payments for certain Medicare discharges from LTCHs beginning in fiscal year 2016.
- The total number of skilled nursing facilities (SNFs) has increased slightly since 2009, and the mix of facilities shifted from hospital-based to freestanding facilities (data not shown). In 2018, hospital-based units made up 4 percent of all SNF facilities (data not shown).

Chart 8-2. Medicare's fee-for-service post-acute care expenditures have been relatively stable since 2012



Note: These calendar year–incurred data represent only program spending; they do not include beneficiary cost sharing.

Source: CMS Office of the Actuary 2019.

- Aggregate fee-for-service (FFS) spending on post-acute care (PAC) has remained stable since 2012, in part because of expanded enrollment in managed care under Medicare Advantage (Medicare Advantage spending is not included in this chart). However, spending growth has varied by PAC sector.

- FFS spending on inpatient rehabilitation facilities declined between 2004 and 2008, reflecting policies intended to ensure that patients who do not need this intensity of services are treated in less-intensive settings (data not shown). However, spending on inpatient rehabilitation facilities has increased since 2008.

- FFS spending on skilled nursing facilities increased sharply in 2011, reflecting CMS's adjustment for the implementation of the new case-mix groups (resource utilization groups, version IV). Once CMS established that the adjustment it made was too large, it lowered the adjustment, and spending dropped in 2012 and has remained stable since.

- FFS spending on long-term care hospitals has decreased by 14 percent since 2015, largely due to the implementation of the dual payment-rate structure that reduced payments for certain long-term care hospital cases.

Chart 8-3. Freestanding SNFs and for-profit SNFs accounted for the majority of facilities, Medicare stays, and Medicare spending

	Facilities		Medicare-covered stays		Medicare payments (billions)	
Type of SNF	2011	2017	2011	2017	2011	2017
Totals	14,935	15,090	2,455,730	2,266,301	$28.8	$25.9
Freestanding	95%	96%	93%	96%	97%	97%
Hospital based	5	4	7	4	3	3
Urban	71	73	81	83	84	85
Rural	29	27	19	17	16	15
For profit	70	71	72	71	76	75
Nonprofit	25	23	25	24	21	21
Government	5	6	3	4	3	4

Note: SNF (skilled nursing facility). Totals may not sum to 100 percent due to rounding and missing values. The spending amount included here is lower than that reported by the Office of the Actuary, and the count of SNFs is slightly lower than what is reported in the Provider of Services file.

Source: MedPAC analysis of the Provider of Services and Medicare Provider Analysis and Review files, 2011 and 2017.

- In 2017, freestanding facilities accounted for 96 percent of stays and 97 percent of Medicare's payments.
- Urban facilities accounted for 73 percent of facilities, 83 percent of stays, and 85 percent of Medicare payments in 2017.
- In 2017, for-profit facilities accounted for 71 percent of facilities and stays and 75 percent of Medicare payments.

Chart 8-4. SNF admissions and stays declined in 2017

Volume measure	2013	2015	2016	2017	Percent change 2016–2017
Covered admissions per 1,000 FFS beneficiaries	69.3	68.9	65.9	64.6	–2.0%
Covered days per 1,000 FFS beneficiaries	1,872	1,824	1,693	1,623	–4.1
Covered days per admission	27.0	26.5	25.7	25.1	–2.3

Note: SNF (skilled nursing facility), FFS (fee-for-service). Data include 50 states and the District of Columbia. Yearly figures presented in the table are rounded, but the percent-change column was calculated using unrounded data.

Source: Calendar year data from CMS, Office of Information Products and Data Analytics 2017.

- In 2017, 4.2 percent of beneficiaries enrolled in Medicare fee-for-service used SNF services, down slightly from 2011 (data not shown).
- Between 2016 and 2017, SNF admissions per 1,000 FFS beneficiaries decreased 2 percent. The decline is consistent with a decline in FFS per capita inpatient hospital stays that were three days or longer and therefore qualified for Medicare coverage of SNF care.
- During the same period, covered days per admission declined 2.3 percent to 25.1 days, so there were fewer covered days per 1,000 beneficiaries.

Chart 8-5. Freestanding SNF Medicare margins remained high in 2017

	2010	2012	2014	2015	2016	2017
All	19.4%	14.1%	12.8%	12.7%	11.6%	11.2%
Rural	19.5	13.3	10.9	10.9	9.9	9.7
Urban	19.4	14.2	13.1	13.0	11.9	11.5
Nonprofit	11.4	5.7	4.2	4.4	2.3	1.7
For profit	21.3	16.3	15.2	15.1	14.2	13.7

Note: SNF (skilled nursing facility).

Source: MedPAC analysis of freestanding SNF cost reports 2010–2017.

- Though lower than in recent years, the aggregate Medicare margin for freestanding SNFs in 2017 exceeded 10 percent for the 18th consecutive year (not all years are shown). After reaching over 21 percent in 2011 (not shown), the margins have declined primarily because current law requires annual market basket increases to payments to be offset by a productivity adjustment.

- In 2017, on average, urban facilities had higher Medicare margins than rural facilities. For-profit SNFs had considerably higher Medicare margins than nonprofit SNFs, reflecting their larger size, their lower cost growth, and their higher share of the more profitable therapy case-mix groups (the ultra-high and very high groups).

- In 2017, total margins (the margin across all payers and all lines of business) for freestanding facilities remained positive (0.5 percent, data not shown).

Chart 8-6. Cost and payment differences explain variation in Medicare margins for freestanding SNFs in 2017

Characteristic	Highest margin quartile (*n* = 3,284)	Lowest margin quartile (*n* = 3,283)	Ratio of highest quartile to lowest quartile
Cost measures			
Standardized cost per day	$271	$399	0.68
Standardized cost per discharge	$11,285	$14,116	0.80
Average daily census (patients)	87	65	1.35
Revenue measures			
Medicare payment per day	$522	$452	1.15
Medicare payment per discharge	$22,470	$15,714	1.43
Share of days in intensive therapy	88%	80%	1.10
Share of medically complex days	3	4	0.75
Medicare share of facility revenue	23	13	1.77
Average length of stay (days)	42	35	1.21
Medicaid share of days	66	57	1.16
Patient characteristics			
Case-mix index	1.41	1.32	1.07
Share of dual-eligible beneficiaries	39%	26%	1.50
Share of minority beneficiaries	14	5	2.80
Share of very old beneficiaries	30	35	0.86
Facility mix			
Share for profit	86%	57%	N/A
Share urban	79	70	N/A

Note: SNF (skilled nursing facility), N/A (not applicable). Values shown are medians for the quartile. Highest margin quartile SNFs were in the top 25 percent of the distribution of Medicare margins. Lowest margin quartile SNFs were in the bottom 25 percent of the distribution of Medicare margins. "Standardized cost per day" includes Medicare costs adjusted for differences in area wages and the case mix (using the nursing component's relative weights) of Medicare beneficiaries. "Days in intensive therapy" are days classified into ultra-high and very high rehabilitation case-mix groups. "Very old beneficiaries" are 85 years or older. "Medically complex days" are those assigned to clinically complex or special-care case-mix groups. Quartile figures presented in the table are rounded, but the ratio column was calculated using unrounded data.

Source: MedPAC analysis of freestanding SNF cost reports 2017.

- Medicare margins varied widely across freestanding SNFs. One-quarter of SNFs had Medicare margins at or below 0.8 percent, and one-quarter of facilities had Medicare margins at or above 20.2 percent (data not shown).
- High-margin SNFs had lower costs per day (32 percent lower costs than low-margin SNFs), after adjusting for wage and case-mix differences, and higher revenues per day (15 percent).
- Facilities with the highest Medicare margins had higher case-mix indexes, higher shares of beneficiaries who were dually eligible for Medicare and Medicaid, and higher shares of minority beneficiaries.

Chart 8-7. Financial performance of relatively efficient SNFs in 2017 reflects a combination of lower cost per day and higher payment per day

	Relatively efficient SNFs	Other SNFs
Performance in 2017		
Community discharge rate	50.3%	39.8%
Readmission rate	9.0%	10.9%
Standardized cost per day	$297	$324
Medicare revenue per day	$526	$476
Medicare margin	18.0%	10.5%
Total margin	2.3%	0.6%
Facility case-mix index	1.44	1.36
Medicare average length of stay	30 days	38 days
Occupancy rate	87%	85%
Average daily census	100	79
Share of ultra-high therapy days	66%	55%
Share of medically complex days	4.2%	3.8%
Medicaid share of facility days	58%	63%
Share urban	84%	67%
Share for profit	79%	68%

Note: SNF (skilled nursing facility). The analysis includes 11,462 freestanding facilities. SNFs were defined as "relatively efficient" by their cost per day measure (2014–2016) and two quality measures (community discharge and readmission rates) for the same period (2014–2016). Relatively efficient SNFs were those in the best third of the distribution of any one measure and not in the bottom third on any measure in each of three years. Eight percent of SNFs qualified as relatively efficient. Costs per day were standardized for differences in case mix (using the nursing component relative weights) and wages. Rates of risk-adjusted community discharge and readmission for patients with potentially avoidable conditions during the SNF stay are quality measures and were calculated for all facilities with at least 25 stays. "Ultra-high therapy days" include days with at least 720 minutes per week of therapy. "Medically complex days" are those assigned to clinically complex or special-care case-mix groups.

Source: MedPAC analysis of quality measures and Medicare cost report data for 2014–2017.

- "Relatively efficient SNFs" are defined as consistently providing relatively low-cost and high-quality care compared with other SNFs. Compared with other SNFs in 2017, relatively efficient SNFs furnished considerably higher quality (higher discharge to community rates and lower readmission rates) and had costs per day that were 8 percent lower.

- Compared with other SNFs in 2017, relatively efficient SNFs treated a similar share of medically complex patients, had a higher share of ultra-high therapy days, were larger, had shorter stays, had slightly higher occupancy rates, and had higher average daily censuses.

Chart 8-8. Trends in the provision of home health care

	2002	2016	2017	Percent change 2016–2017	Cumulative percent change 2002–2017
Number of users (in millions)	2.5	3.5	3.4	-1.7	35.1
Share of FFS beneficiaries who used home health care	7.2%	8.9%	8.8%	–1.4	22.5
Episodes (in millions)	4.1	6.5	6.3	–3.1	54.5
Episodes per home health patient	1.6	1.9	1.9	–1.4	14.3
Visits per home health episode	18.9	16.5	16.5	–0.1	−13.0
Visits per home health patient	30.8	31.3	30.8	−1.6	0.1
Average payment per episode	$2,645	$2,988	$3,039	1.4	14.8

Note: FFS (fee-for-service). Yearly figures presented in the table are rounded, but the percent-change columns were calculated using unrounded data. Average payment per episode excludes low-use episodes with fewer than five visits.

Source: MedPAC analysis of the home health standard analytic file.

- The number of home health episodes has increased since 2002. The number of beneficiaries using home health care has also increased since 2002, albeit at a lower rate. In 2017, 3.4 million beneficiaries used the home health benefit.
- The number of visits per episode has decreased since 2002. However, this decline was offset by an increase in the average number of episodes per patient, which increased from 1.6 in 2002 to 1.9 in 2017. Beneficiaries received fewer visits in an episode but had more 60-day episodes of care.

Chart 8-9. Most home health episodes are not preceded by hospitalization or PAC stay

	Number of episodes (in millions)			Percent change	
	2001	2011	2017	2001–2011	2011–2017
Episodes preceded by a hospitalization or PAC stay	1.9	2.2	2.2	14.8%	2.2%
Episodes not preceded by a hospitalization or PAC stay	2.1	4.6	4.1	123.8	–10.9
Total	3.9	6.8	6.3	73.3	–7.3

Note: PAC (post-acute care). "Episodes preceded by a hospitalization or PAC stay" refers to episodes that occurred less than 15 days after a stay in a hospital (including a long-term care hospital), skilled nursing facility, or inpatient rehabilitation facility. "Episodes not preceded by a hospitalization or PAC stay" refers to episodes for which there was no hospitalization or PAC stay in the previous 15 days. Numbers may not sum due to rounding.

Source: 2017 home health standard analytic file, 2017 Medicare Provider and Analysis Review file, and 2017 skilled nursing facility standard analytic file.

- The rise in the average number of episodes per beneficiary since 2001 coincided with a relative shift away from using home health care as a PAC service.
- Between 2001 and 2011, the number of episodes not preceded by a hospitalization or PAC stay increased by about 124 percent compared with an almost 15 percent increase in episodes that were preceded by a hospitalization or PAC stay. During that same period, the share of all episodes not preceded by a hospitalization or PAC stay rose from about 53 percent to 67 percent (data not shown). Since 2011, however, the number of home health episodes not preceded by a hospitalization or PAC stay has declined 10.9 percent while the number of episodes preceded by a hospitalization or PAC stay has increased 2.2 percent. Even so, about two-thirds of home health episodes were not preceded by an inpatient hospital or PAC stay in 2017.
- Beneficiaries for whom the majority of home health episodes were preceded by a hospitalization or PAC stay had different characteristics from community-admitted beneficiaries (those who had no prior hospitalization or PAC). Community-admitted home health users were more likely to be dually eligible for Medicare and Medicaid, to have more home health episodes, and to have more episodes with a high share of home health aide services compared with those home health users coming from a hospitalization or other PAC stay (data not shown). Community-admitted users generally had fewer chronic conditions, tended to be older, and were more likely to have dementia or Alzheimer's disease (data not shown).

Chart 8-10. Medicare margins for freestanding home health agencies, 2016 and 2017

	2016	2017	Share of agencies 2017
All	15.5%	15.2%	100%
Geography			
Mostly urban	16.0	15.8	83
Mostly rural	13.8	13.4	17
Type of control			
For profit	16.8	16.4	88
Nonprofit	12.0	10.9	12
Volume quintile (lowest to highest)			
First	8.5	7.4	20
Second	10.8	9.8	20
Third	11.6	11.5	20
Fourth	14.5	13.6	20
Fifth	17.4	17.0	20

Note: Agencies are characterized as urban or rural based on the residence of the majority of their patients.

Source: MedPAC analysis of 2016–2017 Medicare Cost Report files from CMS.

- In 2017, freestanding home health agencies (HHAs) (85 percent of all HHAs) had an aggregate margin of 15.2 percent. HHAs that served mostly urban patients in 2017 had an aggregate margin of 15.8 percent; HHAs that served mostly rural patients had an aggregate margin of 13.4 percent. The 2017 margin is consistent with the historically high margins the home health industry has experienced since the prospective payment system (PPS) was implemented in 2000. The margin from 2001 to 2016 averaged 16.5 percent (data not shown), indicating that most agencies have been paid well in excess of their costs under the PPS.

- For-profit agencies in 2017 had an average margin of 16.4 percent, and nonprofit agencies had an average margin of 10.9 percent.

- Agencies that serve more patients have higher margins. The agencies in the lowest volume quintile in 2017 had an aggregate margin of 7.4 percent, while those in the highest quintile had an aggregate margin of 17.0 percent.

Chart 8-11. Number of FFS IRF cases decreased in 2017

	2008	2013	2016	2017	Average annual percent change 2008–2016	Percent change 2016–2017
Number of IRF cases	356,000	373,000	391,000	380,000	1.2%	–2.7%
Cases per 10,000 FFS beneficiaries	100.4	99.1	100.9	98.5	0.1	–2.4
Payment per case	$16,646	$18,258	$19,714	$20,322	2.1	3.1
Average length of stay (in days)	13.3	12.9	12.7	12.7	–0.6	0.0

Note: FFS (fee-for-service), IRF (inpatient rehabilitation facility). Numbers of cases reflect Medicare FFS utilization only. Yearly figures presented in the table are rounded, but the percent-change columns were calculated using unrounded data.

Source: MedPAC analysis of Medicare Provider Analysis and Review data from CMS.

- The number of Medicare FFS IRF cases grew rapidly throughout the 1990s and the early years of the IRF prospective payment system, reaching a peak of about 495,000 in 2004 (data not shown).

- In 2004, CMS renewed its enforcement of the compliance threshold, which requires that 60 percent or more of an IRFs' cases have at least one of 13 specified conditions, and IRF volume began to fall. Between 2004 and 2008, the number of IRF cases fell almost 8 percent per year (data not shown). After 2008, volume began to increase slowly, rising an average of 1.2 percent per year from 2008 to 2016. Between 2016 and 2017, however, the number of FFS IRF cases fell 2.7 percent.

- In 2017, the number of IRF cases per 10,000 FFS beneficiaries fell to 98.5, down 2.4 percent from the previous year. Relatively few Medicare beneficiaries use IRF services because, to qualify for Medicare coverage, IRF patients must be able to both tolerate and benefit from intensive rehabilitation therapy, which typically consists of at least three hours of therapy a day for at least five days a week. With the decline in the number of IRF cases per FFS beneficiary, FFS Medicare's share of IRF discharges fell to 58 percent of total discharges as the volume of IRF cases across all payers rose slightly in 2017 (data not shown).

- Medicare payments per IRF case rose, on average, 2.1 percent per year between 2008 and 2016. Payments per case grew 3.1 percent between 2016 and 2017.

Chart 8-12. Most common types of FFS inpatient rehabilitation facility cases, 2017

Type of case	Share of cases
Stroke	20.5%
Other neurological conditions	15.0
Brain injury	10.7
Debility	10.6
Fracture of the lower extremity	10.4
Other orthopedic conditions	7.9
Cardiac conditions	5.8
Spinal cord injury	4.9
Major joint replacement of lower extremity	4.4
All other	9.8

Note: FFS (fee-for-service). "Other neurological conditions" includes multiple sclerosis, Parkinson's disease, polyneuropathy, and neuromuscular disorders. "Fracture of the lower extremity" includes hip, pelvis, and femur fractures. Patients with debility have generalized deconditioning not attributable to other conditions. "Other orthopedic conditions" excludes fractures of the hip, pelvis, and femur and hip and knee replacements. "All other" includes conditions such as amputations, arthritis, and pain syndrome. All Medicare FFS inpatient rehabilitation facility (IRF) cases with valid patient assessment information were included in this analysis.

Source: MedPAC analysis of Inpatient Rehabilitation Facility–Patient Assessment Instrument data from CMS.

- In 2017, the most frequently occurring case type among FFS beneficiaries admitted to IRFs was stroke, which accounted for 20.5 percent of Medicare FFS cases.

- The number and share of Medicare FFS cases with other neurological conditions has grown significantly. Between 2008 and 2017, the number of IRF discharges with other neurological conditions almost doubled, climbing 99 percent while the total number of Medicare IRF discharges increased 6 percent (data not shown).

- The distribution of case types differs by type of IRF. For example, in 2017, 16 percent of FFS cases in freestanding for-profit IRFs were admitted for rehabilitation after a stroke, compared with 26 percent of cases in hospital-based nonprofit IRFs (data not shown). Likewise, 21 percent of FFS cases in freestanding for-profit IRFs were admitted with other neurological conditions, more than twice the share admitted to hospital-based nonprofit IRFs (data not shown).

Chart 8-13. Inpatient rehabilitation facilities' Medicare margins by type of facility, 2008–2017

	2008	2010	2012	2014	2015	2016	2017
All IRFs	9.4%	8.6%	11.2%	12.2%	13.9%	13.3%	13.8%
Hospital based	3.8	–0.6	0.7	0.7	2.2	0.9	1.5
Freestanding	18.2	21.4	23.9	25.2	26.7	25.8	25.5
Urban	9.6	9.0	11.6	12.6	14.3	13.6	14.2
Rural	7.2	4.7	6.6	6.4	8.6	9.4	8.4
Nonprofit	5.3	2.1	2.1	1.7	3.5	1.6	2.2
For profit	16.9	19.6	22.9	23.6	24.9	24.2	23.8

Note: IRF (inpatient rehabilitation facility).

Source: MedPAC analysis of cost report data from CMS.

- The aggregate IRF Medicare margin increased in 2017 to 13.8 percent.
- Margins varied by ownership, with for-profit IRFs having substantially higher margins. At the same time, Medicare margins in freestanding IRFs far exceeded those of hospital-based facilities. Nevertheless, a quarter of hospital-based IRFs had Medicare margins greater than 11 percent (data not shown), indicating that many hospitals can manage their IRF units profitably. Further, despite the comparatively low average margin in hospital-based IRFs, evidence suggests that these units make a positive financial contribution to their parent hospitals. Commission analysis found that, in 2017, the aggregate inpatient Medicare margin for acute care hospitals with IRF units was nearly a percentage point higher than the margin of hospitals without IRF units (data not shown).
- Higher unit costs are a major driver of low margins in both hospital-based and nonprofit IRFs. However, the Commission has found that the mix of case types in IRFs is also correlated with profitability. IRFs with the highest margins have a higher share of neurological cases and a lower share of stroke cases. Further, we have observed differences in the types of stroke and neurological cases admitted to high- and low-margin IRFs. Stroke cases in the highest margin IRFs are much less likely to have paralysis than are stroke cases in the lowest margin IRFs. Neurological cases in the highest margin IRFs are much more likely to be neuromuscular disorders (such as amyotrophic lateral sclerosis) than are neurological cases in the lowest margin IRFs (data not shown).
- The Commission has found that high-margin IRFs have patients who are, on average, less severely ill in the acute care hospital than patients admitted to low-margin IRFs. Once admitted to and assessed by the IRF, however, the average patient profile changes, with patients treated in high-margin IRFs appearing to be more disabled than those in low-margin IRFs. This finding suggests the possibility that assessment and coding practices may contribute to greater revenues in some IRFs (data not shown).

Chart 8-14. Low standardized costs led to high margins for both hospital-based and freestanding IRFs, 2017

Characteristic	Lowest cost quartile	Highest cost quartile
Median cost per discharge		
All	$11,762	$20,379
Hospital based	12,290	20,374
Freestanding	11,212	20,778
Median Medicare margin		
All	26.9%	–21.43%
Hospital based	23.1	–21.27
Freestanding	30.6	–25.13
Median		
Number of beds	48	18
Occupancy rate	72%	52%
Share of facilities in the quartile that are:		
Hospital based	37%	94%
Freestanding	63	6
Nonprofit	28	65
For profit	67	20
Government	4	15
Urban	95	76
Rural	5	25

Note: IRF (inpatient rehabilitation facility). Cost per discharge is standardized for differences in wages across geographic areas, differences in case mix across providers, and differences across providers in the prevalence of high-cost outliers, short-stay outliers, and transfer cases. Totals may not sum to 100 percent due to rounding.

Source: MedPAC analysis of Medicare cost report and Medicare Provider Analysis and Review data from CMS.

- IRFs with the lowest standardized costs (those in the lowest cost quartile) had a median standardized cost per discharge that was 42 percent less than that of the IRFs with the highest standardized costs (those in the highest cost quartile).
- IRFs with the lowest costs tended to be larger: The median number of beds was 48 compared with 18 in the highest cost quartile. In addition, IRFs with the lowest costs had a higher median occupancy rate (72 percent vs. 52 percent, respectively). These results suggest that low-cost IRFs benefit from economies of scale.
- Low-cost IRFs were disproportionately freestanding and for profit. Still, 37 percent of IRFs in the lowest cost quartile were hospital based and 28 percent were nonprofit. By contrast, in the highest cost quartile, 94 percent were hospital based and 65 percent were nonprofit.

Chart 8-15. The top 25 MS–LTC–DRGs accounted for almost 70 percent of LTCH discharges in 2017

MS–LTC–DRG	Description	Discharges	Share of cases
189	Pulmonary edema and respiratory failure	18,835	16.2%
207	Respiratory system diagnosis with ventilator support 96+ hours	13,838	11.9
871	Septicemia without ventilator support 96+ hours with MCC	7,056	6.1
208	Respiratory system diagnosis with ventilator support <96 hours	2,825	2.4
592	Skin ulcers with MCC	2,716	2.4
177	Respiratory infections and inflammations with MCC	2,412	2.1
949	Aftercare with CC/MCC	2,381	2.0
539	Osteomyelitis with MCC	2,337	2.0
166	Other respiratory system OR procedures with MCC	2,246	1.9
981	Extensive OR procedure unrelated to principal diagnosis with MCC	2,222	1.9
682	Renal failure with MCC	2,207	1.9
190	Chronic obstructive pulmonary disease with MCC	1,814	1.6
291	Heart failure and shock with MCC	1,733	1.5
559	Aftercare, musculoskeletal system and connective tissue with MCC	1,681	1.4
4	Tracheostomy with ventilator support 96+ hours or primary diagnosis except face, mouth, and neck without major OR	1,579	1.4
314	Other circulatory system diagnoses with MCC	1,518	1.3
919	Complications of treatment with MCC	1,508	1.3
862	Postoperative and post-traumatic infections with MCC	1,483	1.3
570	Skin debridement with MCC	1,455	1.2
853	Infectious and parasitic diseases with OR procedure with MCC	1,438	1.2
870	Septicemia with ventilator support 96+ hours	1,303	1.1
638	Diabetes with CC	1,255	1.1
689	Kidney and urinary tract infections with MCC	1,201	1.0
637	Diabetes with MCC	1,186	1.0
371	Major gastrointestinal disorder and peritoneal infections with MCC	1,098	0.9
	Top 25 MS–LTC–DRGs	79,327	68.1
	Total	116,424	100.0

Note: MS–LTC–DRG (Medicare severity long-term care diagnosis related group), LTCH (long-term care hospital), MCC (major complication or comorbidity), CC (complication or comorbidity), OR (operating room). MS–LTC–DRGs are the case-mix system for LTCHs.

Source: MedPAC analysis of Medicare Provider Analysis and Review data from CMS.

- Cases in LTCHs are concentrated in a relatively small number of MS–LTC–DRGs. In 2017, the top 25 MS–LTC–DRGs accounted for 68.1 percent of LTCH Medicare cases.
- As in 2016, the two most frequent diagnoses in LTCHs in 2017 were pulmonary edema and respiratory failure and a respiratory system diagnosis with ventilator support of more than 96 hours.
- Over 35 percent of all LTCH cases were respiratory conditions—a statistic that has been relatively stable since the 2008 implementation of the MS-LTC-DRGs. Nonprofit LTCHs care for a higher share of beneficiaries with a respiratory-related illness compared with for-profit LTCHs (data not shown).

Chart 8-16. The number of Medicare LTCH cases and users decreased by over 7 percent between 2016 and 2017

						Average annual change		
	2012	2014	2015	2016	2017	2012–2015	2015–2016	2016–2017
Cases	140,463	133,984	131,129	125,586	116,424	–2.3%	–4.2%	–7.3%
Cases per 10,000 FFS beneficiaries	37.7	35.4	34.4	32.5	30.2	–3.0	–5.7	–7.0
Spending per FFS beneficiary	$148.78	$141.61	$140.17	$131.94	$115.44	–2.0	–5.9	–12.5
Payment per case	$39,493	$40,015	$40,719	$40,656	$38,253	1.0	–0.2	–5.9
Length of stay (in days)	26.2	26.3	26.6	26.8	26.3	0.4	1.1	–2.2
Users	123,652	118,288	116,088	111,171	103,322	–2.1	–4.2	–7.1

Note: LTCH (long-term care hospitals), FFS (fee-for-service). Yearly figures presented in the table are rounded, but the average annual changes were calculated using unrounded data.

Source: MedPAC analysis of Medicare Provider Analysis and Review data from CMS.

- The Pathway for SGR Reform Act of 2013 created a "dual payment-rate structure" for LTCHs where, beginning in fiscal year 2016, only certain LTCH cases continue to qualify for the standard LTCH perspective payment system rate, while cases that do not meet a set of criteria are paid a lower "site-neutral" rate.

- Controlling for the number of FFS beneficiaries, the number of LTCH cases declined by 3 percent annually between 2012 and 2015. The number of cases declined more rapidly following the implementation of the dual payment-rate structure. From 2016 to 2017 the number of LTCH cases declined by 7 percent.

- Reductions in payment per case since 2015 reflect a lower payment rate for cases that did not meet the criteria following the implementation of the dual payment-rate structure.

- Since 2012, the average length of stay has varied from 26.2 to 26.8. A decrease of 2.2 percent from 2016 largely reflects a reduction in the length of stay for cases that do not meet the criteria under the dual payment-rate structure because these cases no longer count toward the LTCH average length of stay requirement of greater than 25 days.

- Reflecting the decline in the number of Medicare cases, the number of beneficiaries who had LTCH stays ("users") also decreased by 7.1 percent from 2016 to 2017.

Chart 8-17. The aggregate LTCH Medicare margin continued to fall in 2017

Type of LTCH	Share of discharges in 2017	Medicare margin					
		2012	2013	2014	2015	2016	2017
All	100%	7.6%	6.8%	5.2%	4.7%	3.9%	–2.2%
Urban	96	7.7	6.9	5.2	4.7*	4.0	–1.9
Rural	4	3.4	6.0	5.1	3.5*	–0.2	–13.6
Nonprofit	12	–0.2	–1.1	–2.2	–5.9	–5.7	–13.0
For profit	87	9.3	8.6	7.0	6.5	5.5	–0.3

Note: LTCH (long-term care hospital).
*CMS adopted new core-based statistical area codes for LTCHs beginning in fiscal year 2015; this change reclassified several facilities as urban that had previously been classified as rural, and therefore the margin across categories of urban and rural facilities between 2014 and 2015 should not be compared.

Source: MedPAC analysis of cost report data from CMS.

- From 2009 (data not shown) through 2012, LTCH margins climbed as providers consistently held cost growth below that of payment growth. After peaking in 2012, the aggregate LTCH margin fell to 6.8 percent in 2013, primarily due to policy changes that reduced payments, including the start of a three-year phase-in of a downward adjustment for budget neutrality and the effect of sequestration beginning on April 1, 2013.

- In fiscal year 2016, CMS began implementing a "dual payment-rate structure" where certain LTCH cases not meeting a set of criteria specified in law are paid a lower "site-neutral" rate. The aggregate Medicare margin fell to –2.2 percent in 2017.

- Financial performance in 2017 varied across LTCHs. The aggregate Medicare margin for for-profit LTCHs (which accounted for 87 percent of all Medicare discharges from LTCHs) decreased from 6.5 percent in 2015 to –0.3 percent in 2017. The aggregate margin for nonprofit LTCHs decreased from –5.9 percent in 2015 to –13.0 percent in 2017.

Chart 8-18. The volume and share of LTCH cases meeting the criteria for the standard LTCH PPS rate increased from 2016 to 2017

				Percent change	
Cases meeting the criteria	2015	2016	2017	2015–2016	2016–2017
Cases	72,429	72,318	74,666	–0.2%	3.2%
Share of all LTCH cases	55%	58%	64%		
Cases per 10,000 FFS beneficiaries	19.0	18.7	19.4	–1.7	3.6
Payment per case	$46,217	$46,223	$46,127	0.0	–0.2
Spending (in billions)	$3.3	$3.3	$3.4	–0.1	3.0
Length of stay (in days)	28.5	27.9	27.9	–2.0	–0.1
Aggregate Medicare margin	6.8%	6.3%	5.8%	N/A	N/A

Note: LTCH (long-term care hospital), PPS (prospective payment system), FFS (fee-for-service), N/A (not applicable). Yearly figures presented in the table are rounded, but the percent changes were calculated using unrounded data.

Source: MedPAC analysis of cost report data from CMS.

- The Pathway for SGR Reform Act of 2013 created a "dual payment-rate structure" for LTCHs where, beginning in fiscal year 2016, only certain LTCH cases continue to qualify for the standard LTCH PPS rate, while cases that do not meet a set of criteria are paid a lower "site-neutral" rate.

- The number of cases meeting the criteria to qualify for the standard LTCH PPS rate per 10,000 FFS beneficiaries increased by 3.6 percent in 2017, in contrast to the 7.0 percent reduction in all LTCH cases per 10,000 FFS beneficiaries (see Chart 8-16).

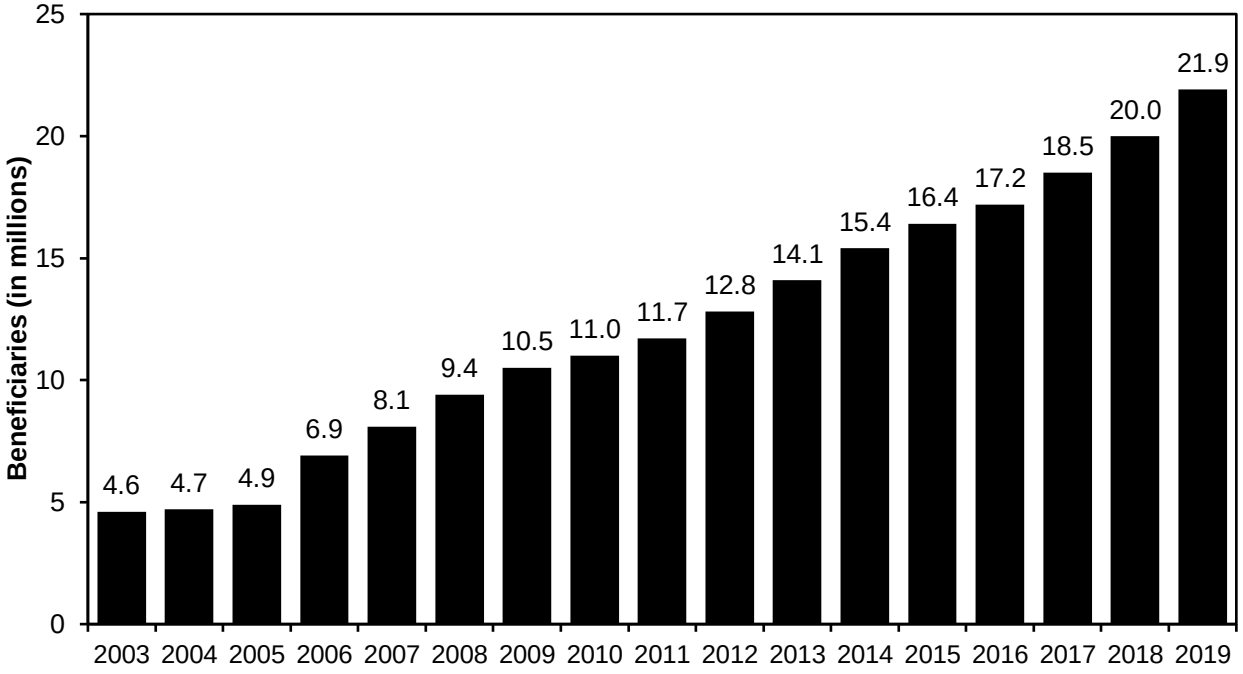
- After decreasing from 28.5 days in 2015 to 27.9 days in 2016, the average length of stay for cases meeting the criteria to qualify for the standard LTCH PPS rate remained stable in 2017.

- The aggregate Medicare margin for cases meeting the criteria to qualify for the standard LTCH PPS rate decreased from 6.8 percent in 2015 to 5.8 percent in 2017. Because cases that meet the criteria are generally more profitable under the dual payment-rate structure than those that do not, we expect stronger financial performance under Medicare for LTCHs that treat higher shares of these cases.

SECTION 9

Medicare Advantage

Chart 9-1. Enrollment in MA plans, 2003–2019



Note: MA (Medicare Advantage).

Source: Medicare managed care contract reports and monthly summary reports, CMS.

- Enrollment in MA plans that are paid on an at-risk capitated basis reached 21.9 million enrollees (34 percent of all Medicare beneficiaries) in 2019. MA enrollment has grown steadily since 2003, increasing almost fivefold. The Medicare program paid MA plans about $230 billion in 2018 to cover Part A and Part B services for MA enrollees (data not shown).

Chart 9-2. MA plans available to almost all Medicare beneficiaries

	Share of Medicare beneficiaries living in counties with plans available					
	CCPs					
	HMO or local PPO (local CCP)	Regional PPO	Any CCP	PFFS	Any MA plan	Average plan offerings per beneficiary
2012	93%	76%	99%	60%	100%	19
2013	95	71	99	59	100	19
2014	95	71	99	53	100	18
2015	95	70	98	47	99	17
2016	96	73	99	47	99	18
2017	95	74	98	45	99	18
2018	96	74	98	41	99	20
2019	97	74	98	38	99	23

Note: MA (Medicare Advantage), CCP (coordinated care plan), HMO (health maintenance organization), PPO (preferred provider organization), PFFS (private fee-for-service). These data do not include plans that have restricted enrollment or are not paid based on the MA plan bidding process (special needs plans, cost plans, employer-only plans, and certain demonstration plans).

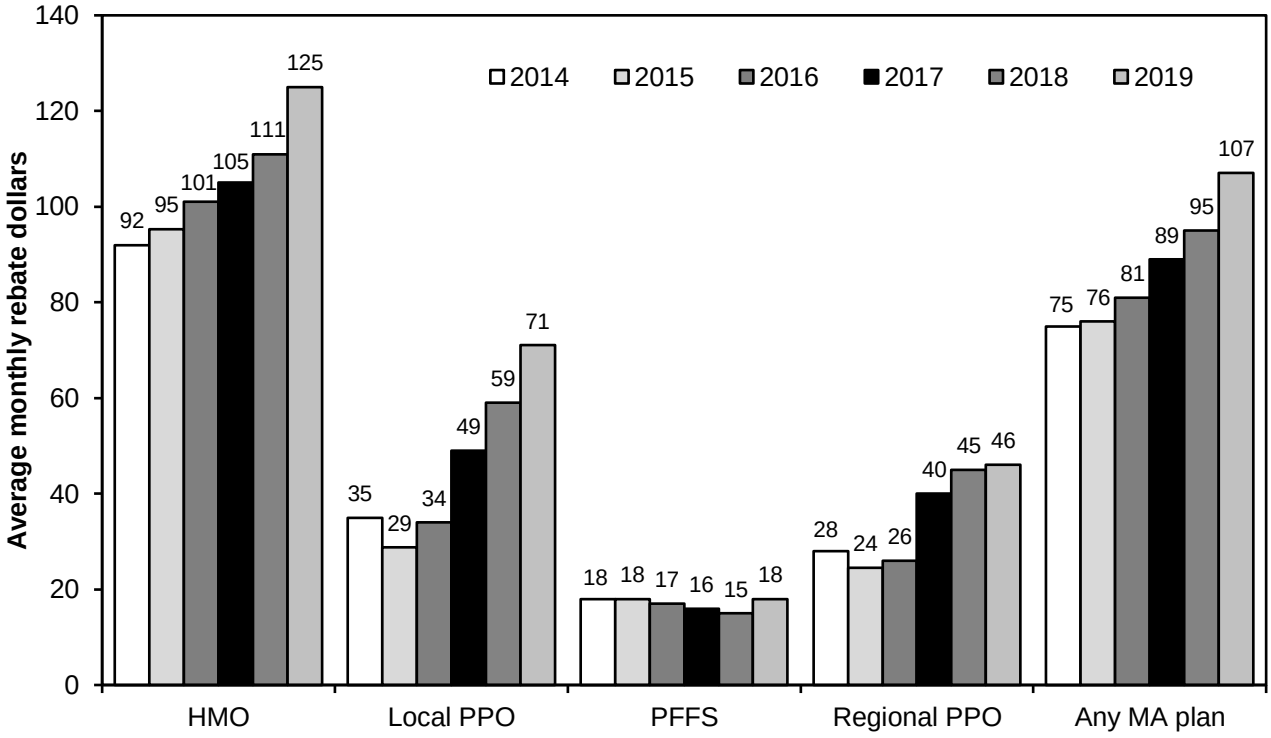
Source: MedPAC analysis of plan bid data from CMS.

- There are four types of MA plans, three of which are CCPs. Local CCPs include HMOs and local PPOs, which have comprehensive provider networks and limit or discourage use of out-of-network providers. Local CCPs may choose which individual counties to serve. Regional PPOs cover entire state-based regions and have networks that may be looser than those required of local PPOs. Since 2011, PFFS plans are required to have networks in areas with two or more CCPs. In other areas, PFFS plans are not required to have networks, and enrollees are free to use any Medicare provider.

- Local CCPs are available to 97 percent of Medicare beneficiaries in 2019, and regional PPOs are available to 74 percent of beneficiaries; the availability of both plan types is as high as or higher than in any year since 2013. Since 2006, almost all Medicare beneficiaries have had MA plans available; 99 percent have an MA plan available in 2019.

- The number of plans from which beneficiaries may choose in 2019 is higher than at any time since 2012. In 2019, beneficiaries can choose from an average of 23 plans operating in their counties.

Chart 9-3. Average monthly rebate dollars, by plan type, 2014–2019



Note: HMO (health maintenance organization), PPO (preferred provider organization), PFFS (private fee-for-service), MA (Medicare Advantage). Employer group waiver and special needs plans are excluded.

Source: MedPAC analysis of bid and plan finder data from CMS.

- Perhaps the best summary measure of plan benefit value is the average rebate, which plans receive to provide additional benefits. Plans are awarded rebates for bidding under their benchmarks. The rebates must be returned to the plan members in the form of extra benefits. The extra benefits may be supplemental benefits, lower cost sharing, or lower premiums. The average rebate for all non-employer, non–special needs plans (SNPs) rose to a high of $107 per month for 2019.

- HMOs have had, by far, the highest rebates because they tend to bid lower than other types of plans. Average rebates for HMOs have risen sharply over the past few years and are at a high of $125 per month for 2019.

- For both local and regional PPOs, the rebates declined through 2015 and then rose sharply after 2016. Rebates for local PPOs have doubled since 2016.

- Rebates for PFFS plans had declined steadily since 2011 (2011–2013 not shown in chart) but increased for 2019.

Chart 9-4. Changes in enrollment vary among major plan types

Plan type	Total enrollees (in thousands) February 2015	February 2016	February 2017	February 2018	February 2019	Percent change 2018–2019
Local CCPs	14,824	15,588	16,920	18,463	20,502	11%
Regional PPOs	1,237	1,315	1,353	1,327	1,255	–5
PFFS	260	238	190	154	118	–23

Note: CCP (coordinated care plan), PPO (preferred provider organization), PFFS (private fee-for-service). Local CCPs include HMOs and local PPOs.

Source: CMS health plan monthly summary reports.

- Enrollment in local CCPs grew by 11 percent over the past year. Enrollment in regional PPOs declined by 5 percent, and enrollment in PFFS plans dropped by 23 percent. Combined enrollment in the three types of plans grew by 10 percent from February 2018 to February 2019 (data not shown).

Chart 9-5. MA and cost plan enrollment by state and type of plan, 2019

State or territory	Medicare eligibles (in thousands)	Distribution (in percent) of enrollees by plan type					
		HMO	Local PPO	Regional PPO	PFFS	Cost	Total
U.S. total	63,678	21%	11%	2%	0%	1%	35%
Alabama	1,088	18	20	1	0	0	40
Alaska	99	0	1	0	0	0	1
Arizona	1,364	33	5	1	0	0	38
Arkansas	675	12	4	6	2	0	24
California	6,523	37	2	0	0	0	40
Colorado	977	29	8	0	0	1	38
Connecticut	707	21	17	1	0	0	39
Delaware	213	7	8	0	0	0	15
Florida	4,796	29	9	6	0	0	43
Georgia	1,830	11	18	8	0	0	37
Hawaii	280	17	27	2	0	0	45
Idaho	347	19	13	0	0	0	32
Illinois	2,327	11	12	0	0	0	24
Indiana	1,312	10	17	3	0	0	30
Iowa	650	8	12	0	0	2	21
Kansas	558	7	9	0	1	0	18
Kentucky	970	9	18	4	0	1	32
Louisiana	906	30	4	2	0	0	36
Maine	353	18	13	1	1	0	33
Maryland	1,085	7	4	0	0	0	11
Massachusetts	1,382	15	5	1	0	0	22
Michigan	2,150	14	23	1	0	0	38
Minnesota	1,072	14	24	0	0	6	43
Mississippi	632	11	4	4	0	0	19
Missouri	1,296	21	10	3	0	0	35
Montana	241	7	10	0	1	0	18
Nebraska	359	10	4	0	1	1	16
Nevada	555	30	5	0	0	0	35
New Hampshire	313	8	7	2	0	0	17
New Jersey	1,694	13	15	0	0	0	28
New Mexico	440	20	15	0	0	0	34
New York	3,761	26	10	3	0	0	39
North Carolina	2,070	14	18	3	0	0	35
North Dakota	137	0	3	0	0	14	17
Ohio	2,418	22	15	1	0	0	38
Oklahoma	779	12	8	1	0	0	20
Oregon	910	28	14	0	0	0	43
Pennsylvania	2,821	25	15	0	0	0	41
Puerto Rico	812	70	3	0	0	0	72
Rhode Island	229	33	3	1	0	0	37
South Carolina	1,111	8	8	11	0	0	27
South Dakota	185	1	7	0	0	13	20
Tennessee	1,418	25	13	1	0	0	38
Texas	4,333	20	12	4	0	0	37
Utah	413	28	8	0	0	0	36
Vermont	154	3	3	4	1	0	11
Virgin Islands	22	0	1	0	0	0	1
Virginia	1,599	10	6	2	1	2	20
Washington	1,426	27	4	0	0	0	32
Washington, DC	99	7	10	0	0	6	18
West Virginia	458	3	24	1	1	4	33
Wisconsin	1,215	22	14	1	1	4	41
Wyoming	114	0	2	0	1	1	4

Note: MA (Medicare Advantage), HMO (health maintenance organization), PPO (preferred provider organization), PFFS (private fee-for-service). Cost plans are not MA plans; they submit cost reports rather than bids to CMS. Component percentages may not sum to totals due to rounding.

Source: CMS enrollment and population data February 2019.

Chart 9-6. MA plan benchmarks, bids, and Medicare program payments relative to FFS spending, 2019

	All plans	HMOs	Local PPOs	Regional PPOs	PFFS
Benchmarks/FFS	107%	107%	109%	105%	107%
Bids/FFS	89	88	96	91	104
Payments/FFS	100	100	104	97	106

Note: MA (Medicare Advantage), FFS (fee-for-service), HMO (health maintenance organization), PPO (preferred provider organization), PFFS (private fee-for-service).

Source: MedPAC analysis of plan bid data from CMS October 2018.

- Since 2006, plan bids have partly determined the Medicare payments they receive. Plans bid to offer Part A and Part B coverage to Medicare beneficiaries (Part D coverage is bid separately). The bid includes plan administrative cost and profit. CMS bases the Medicare payment for a private plan on the relationship between its bid and its applicable benchmark.

- The benchmark is an administratively determined bidding target. Benchmarks for each county are set by means of a statutory formula based on percentages (ranging from 95 percent to 115 percent) of each county's per capita Medicare spending. Plans with quality ratings of 4 or more stars may have their benchmarks raised by up to 10 percent of FFS spending in some counties.

- If a plan's bid is above the benchmark, then the plan receives the benchmark as payment from Medicare, and enrollees have to pay an additional premium that equals the difference. If a plan's bid is below the benchmark, the plan receives its bid plus a "rebate," defined by law as a percentage of the difference between the plan's bid and its benchmark. The percentage is based on the plan's quality rating, and it ranges from 50 percent to 70 percent. The plan must then return the rebate to its enrollees in the form of supplemental benefits, lower cost sharing, or lower premiums.

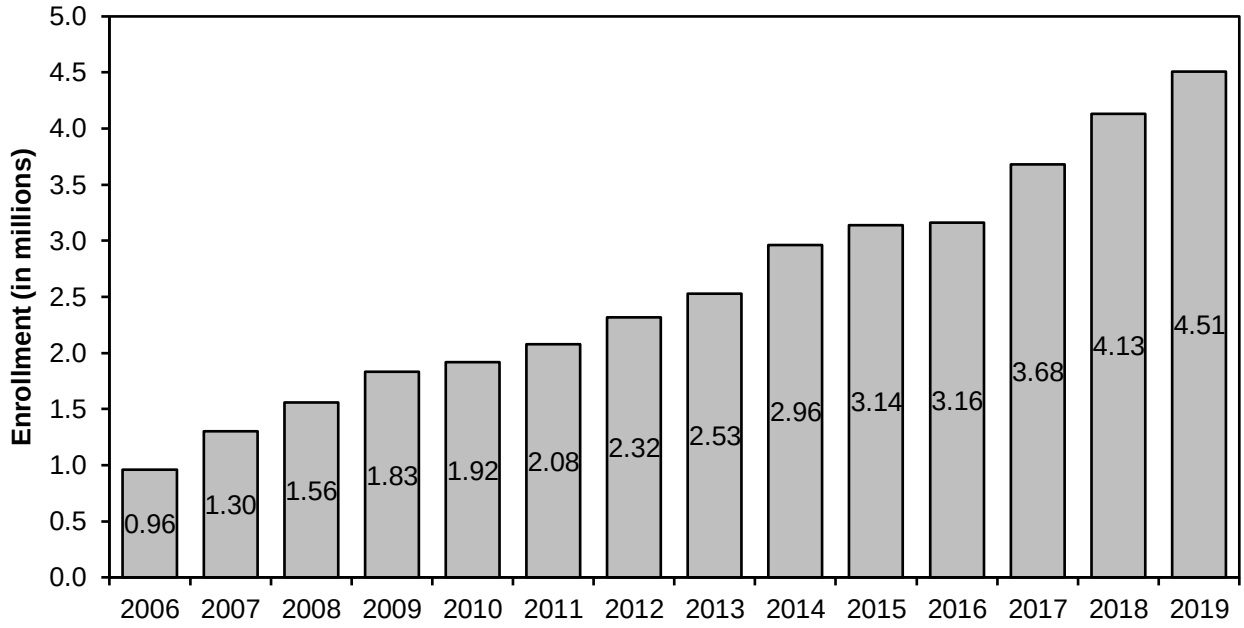
- We estimate that MA benchmarks average 107 percent of FFS spending when weighted by MA enrollment. The ratio varies by plan type because different types of plans tend to draw enrollment from different types of geographical areas.

- Plans' enrollment-weighted bids (excluding employer plans, which no longer submit bids) average 89 percent of FFS spending in 2019. We estimate that HMOs bid an average of 88 percent of FFS spending, while bids from other plan types average at least 91 percent of FFS spending. These numbers suggest that HMOs can provide the same services for less than FFS in the areas where they bid.

- We project that 2019 MA payments will be 100 percent of FFS spending. This figure does not include employer plans and does not account for risk-coding differences between FFS and MA plans that have not been resolved through the coding intensity factor.

- The ratio of payments relative to FFS spending varies by the type of MA plan. HMO and regional PPO payments are estimated to be 100 and 97 percent of FFS, respectively, while payments to local PPOs and PFFS plans average 104 percent and 106 percent of FFS, respectively.

Chart 9-7. Enrollment in employer group MA plans, 2006–2019



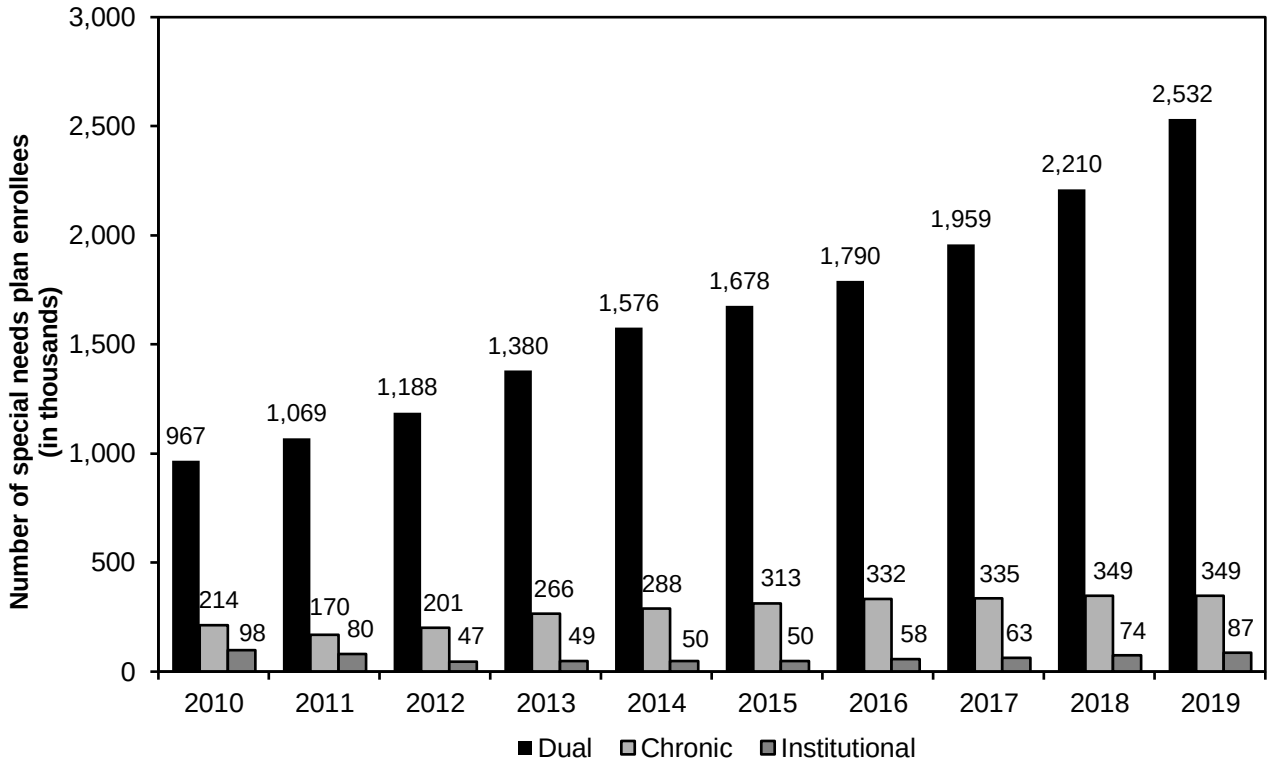
Note: MA (Medicare Advantage). Enrollment numbers are as of May for 2006, November for 2007, and February for 2008 through 2019.

Source: CMS enrollment data.

- While most MA plans are available to any Medicare beneficiary residing in a given area, some MA plans are available only to retirees whose Medicare coverage is supplemented by their former employer or union. These plans are called employer group plans. Such plans are usually offered through insurers and are marketed to groups formed by employers or unions rather than to individual beneficiaries.

- As of February 2019, about 4.5 million enrollees were in employer group plans, or about 21 percent of all MA enrollees. Employer plan enrollment grew by 9 percent from 2018 and has almost doubled since 2012.

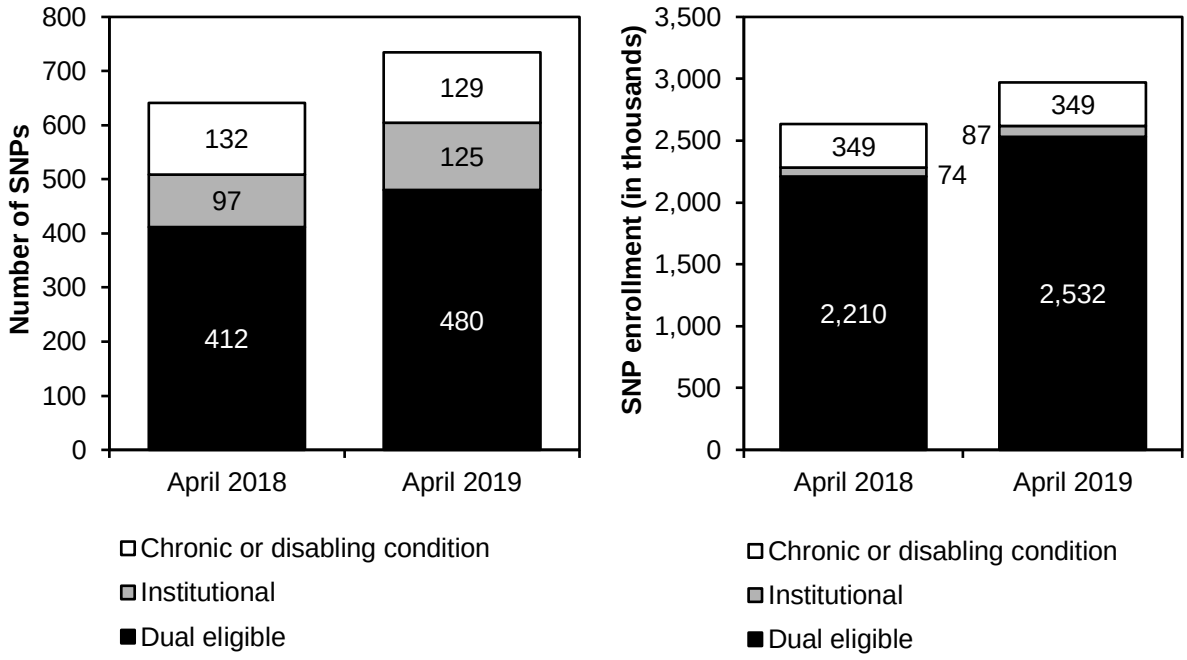
Chart 9-8. Number of special needs plan enrollees, 2010–2019



Source: CMS special needs plans comprehensive reports, April 2010–2019.

- The Congress created special needs plans (SNPs) as a new MA plan type in the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 to provide a common framework for the existing plans serving special needs beneficiaries and to expand beneficiaries' access to and choice among MA plans.
- SNPs were originally authorized for five years, but SNP authority was extended several times. The Bipartisan Budget Act of 2018 made SNPs permanent.
- CMS approves three types of SNPs: dual-eligible SNPs enroll only beneficiaries dually entitled to Medicare and Medicaid, chronic condition SNPs enroll only beneficiaries who have certain chronic or disabling conditions, and institutional SNPs enroll only beneficiaries who reside in institutions or are nursing-home certified.
- Enrollment in dual-eligible SNPs has grown continuously and exceeds 2.5 million in 2019, doubling since 2012.
- Enrollment in chronic condition SNPs has fluctuated as plan requirements have changed, but has risen annually since 2011, until flattening in 2019.
- Enrollment in institutional SNPs declined steadily through 2012 but stabilized, then increased beginning in 2016.

Chart 9-9. Number of SNPs and SNP enrollment rose from 2018 to 2019



Note: SNP (special needs plan).

Source: CMS special needs plans comprehensive reports, April 2018 and 2019.

- The number of SNPs increased by 15 percent from April 2018 to April 2019. Dual-eligible SNPs increased by 17 percent and institutional SNPs increased by 29 percent, while the number of chronic condition SNPs decreased slightly.

- In 2019, most SNPs (65 percent) are for dual-eligible beneficiaries, while 17 percent are for beneficiaries who reside in institutions (or reside in the community but have a similar level of need), and 18 percent are for beneficiaries with chronic conditions.

- From April 2018 to April 2019, the number of SNP enrollees increased by 13 percent. Enrollment in SNPs for dual eligibles grew by 15 percent and enrollment in SNPs for institutionalized beneficiaries grew by 18 percent, while enrollment in SNPs for chronic conditions remained stable. Enrollment in all SNPs has grown from 0.9 million in May 2007 (not shown) to 3.0 million in April 2019.

- The availability of SNPs varies by type of special needs population served (data not shown). In 2019, 89 percent of beneficiaries reside in areas where SNPs serve dual-eligible beneficiaries (up from 86 percent in 2018), 63 percent live where SNPs serve institutionalized beneficiaries (up from 56 percent in 2018), and 47 percent live where SNPs serve beneficiaries with chronic conditions (the same as in 2018).

Chart 9-10. Twenty most common condition categories among MA beneficiaries, as defined in the CMS–HCC model, 2017

Conditions (defined by HCC)	Percent of beneficiaries with listed condition	Percent of beneficiaries with listed condition and no others
Diabetes with chronic complications	20.0%	3.6%
Vascular disease	18.9	2.2
COPD	14.2	1.7
CHF	11.8	0.5
Major depressive, bipolar, and paranoid disorders	11.5	1.8
Specified heart arrhythmias	11.4	1.3
Morbid obesity	8.6	1.0
Diabetes without complications	8.5	3.1
Rheumatoid arthritis and inflammatory connective tissue disease	6.5	1.1
Breast, prostate, colorectal, and other cancers and tumors	5.1	1.3
Coagulation defects and other specified hematological disorders	4.9	0.4
Angina pectoris	4.0	0.3
Drug/alcohol dependence	3.7	0.3
Other significant endocrine and metabolic disorders	3.6	0.3
Acute renal failure	3.4	0.1
Cardio-respiratory failure and shock	2.5	0.0
Seizure disorders and convulsions	2.5	0.3
Ischemic or unspecified stroke	2.2	0.1
Septicemia, sepsis, systemic inflammatory response syndrome/shock	1.8	0.0
Hemiplegia/Hemiparesis	1.6	0.1

Note: MA (Medicare Advantage), CMS–HCC (CMS–hierarchical condition category), COPD (chronic obstructive pulmonary disease), CHF (congestive heart failure).

Source: MedPAC analysis of Medicare data files from Acumen LLC.

- CMS uses the CMS–HCC model to risk adjust capitated payments to MA plans so that payments better reflect the clinical needs of MA enrollees given the number and severity of their clinical conditions. The CMS–HCC model uses beneficiaries' conditions, which are collected into HCCs, to adjust the capitated payments.
- Diabetes with chronic complications is the most common HCC, and over 28 percent of MA enrollees are in two diabetes HCCs combined.

Chart 9-11. Medicare private plan enrollment patterns, by age and Medicare–Medicaid dual-eligible status, December 2017

	As percent of Medicare population	Percent of category in FFS	Percent of category in private plans
All beneficiaries	**100%**	**67%**	**33%**
Aged (65 or older)	85	66	34
Under 65	15	71	29
Non–dual eligible	**82**	**67**	**33**
Aged (65 or older)	74	67	33
Under 65	8	71	29
Dual eligible	**18**	**64**	**36**
Aged (65 or older)	11	59	41
Under 65	7	71	29
Dual-eligible beneficiaries by category (all ages)			
Full dual eligibility	**13**	**68**	**32**
Beneficiaries with partial dual eligibility			
QMB only	3	58	42
SLMB only	2	51	49
QI	1	49	51

Note: FFS (fee-for-service), QMB (qualified Medicare beneficiary), SLMB (specified low-income beneficiary), QI (qualified individual). Dual-eligible beneficiaries are eligible for Medicare and Medicaid. See accompanying text for an explanation of the categories of dual-eligible beneficiaries. "Plans" include Medicare Advantage plans as well as cost-reimbursed plans. Data exclude Puerto Rico because of the inability to determine specific dual-eligible categories. As of December 2017, Puerto Rico had 570,000 Medicare Advantage enrollees. Dual-eligible special needs plans in Puerto Rico had 279,000 enrollees in December 2017. Figures may not sum due to rounding.

Source: MedPAC analysis of 2017 denominator and common Medicare environment files and CMS monthly Medicare Advantage reports.

- Medicare plan enrollment among the dually eligible continues to increase. In 2017, 36 percent of dual-eligible beneficiaries were in Medicare private plans, up from 23 percent in 2012.

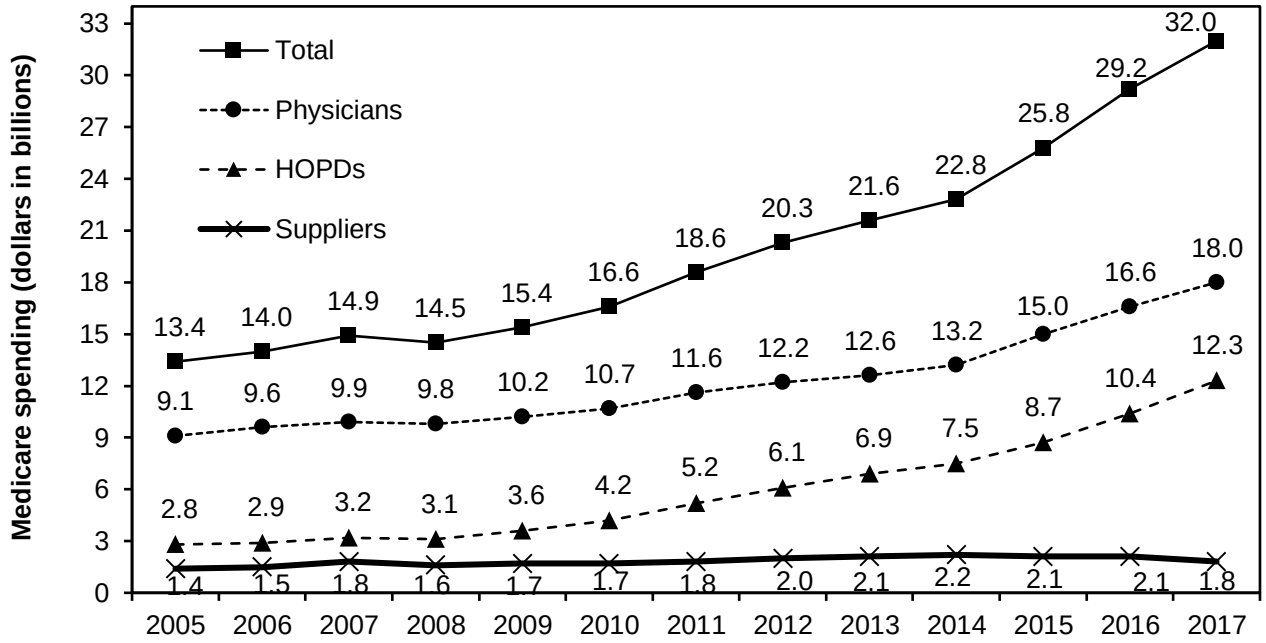
- A substantial share of dual-eligible beneficiaries (42 percent (not shown in table)) are under the age of 65 and entitled to Medicare on the basis of disability or end-stage renal disease. Regardless of dual-eligibility status, beneficiaries under age 65 are less likely than aged beneficiaries to enroll in Medicare private plans (29 percent vs. 34 percent, respectively).

- Dual-eligible beneficiaries who have full dual eligibility—that is, those who have coverage for their Medicare out-of-pocket costs (premiums and cost sharing) as well as coverage for services such as long-term care services and supports—are less likely to enroll in private Medicare plans than beneficiaries with "partial" dual eligibility. Full dual-eligibility categories consist of beneficiaries with coverage through state Medicaid programs as well as certain QMBs and SLMBs who also have Medicaid coverage for services. The latter two categories are referred to as QMB-Plus and SLMB-Plus beneficiaries. Beneficiaries with partial dual eligibility have coverage for Medicare premiums (through the QI or SLMB program) or premiums and Medicare cost sharing, in the case of the QMB program. SLMB-only and QI beneficiaries have higher rates of plan enrollment (49 percent and 51 percent, respectively) than any other category shown in this chart, and the rates are higher than the average rate (33 percent) across all Medicare beneficiaries. This is the first year in which the majority of any category of beneficiaries are in MA (51 percent of the about 500,000 QI beneficiaries were enrolled in plans in December of 2017).

SECTION 10

Prescription drugs

Chart 10-1. Medicare spending for Part B drugs furnished by physicians, hospital outpatient departments, and suppliers, 2005–2017



Note: HOPD (hospital outpatient department). Data include Part B–covered drugs furnished by several provider types including physicians, suppliers, and hospital outpatient departments and exclude those furnished by critical access hospitals, Maryland hospitals, and dialysis facilities. "Medicare spending" includes program payments and beneficiary cost sharing. Data reflect all Part B drugs whether they were paid based on the average sales price plus 6 percent or another payment formula. Data exclude blood and blood products (other than clotting factor). Components may not sum to total due to rounding.

Source: MedPAC and Acumen LLC analysis of Medicare claims data.

- The Medicare program and beneficiaries spent about $32 billion on Part B drugs furnished by physicians, suppliers, and hospital outpatient departments (HOPDs) in 2017, an increase of about 10 percent from 2016.
- Medicare's average sales price (ASP) payment system for Part B drugs began in 2005. Between 2005 and 2017, total spending grew at an average annual rate of 7.6 percent. Spending growth was slower from 2005 to 2009 (about 3.7 percent per year on average) and more rapid from 2009 to 2017 (about 9.6 percent per year on average).
- Of total 2017 Part B drug spending, physicians accounted for 58 percent ($18.0 billion), HOPDs accounted for 36 percent ($12.3 billion), and suppliers accounted for 6 percent ($1.8 billion).
- Between 2009 and 2017, Part B drug spending grew more rapidly for HOPDs than for physicians and suppliers—at average annual rates of about 17 percent, 7 percent, and 1 percent, respectively.

(Chart continued next page)

Chart 10-1. Medicare spending for Part B drugs furnished by physicians, hospital outpatient departments, and suppliers, 2005–2017 (continued)

- Between 2016 and 2017, spending on supplier-furnished drugs declined from $2.1 billion to $1.8 billion due to a change in the payment formula for Part B–covered home infusion drugs (from 95 percent of the average wholesale price to ASP plus 6 percent) and because of patent expirations and generic entry for certain products.

- Not included in these data are critical access hospitals and Maryland hospitals, which are not paid under the ASP system, and end-stage renal disease facilities, which are paid for most Part B drugs through the dialysis bundled payment rate. Medicare and beneficiaries spent approximately $770 million in critical access hospitals and $370 million in Maryland hospitals for Part B drugs in 2017.

Chart 10-2. Change in Medicare payments and utilization for separately payable Part B drugs, 2009–2016

	2009	2016	Average annual growth 2009–2016
Total payments: All Part B drugs (in billions)	$13.1	$27.3	11.1%
Total payments: All Part B drugs excluding vaccines (in billions)	$12.8	$26.1	10.7
Number of beneficiaries using a Part B drug (in millions)	2.8	3.8	4.1
Average total payments per beneficiary who used a Part B drug	$4,524	$6,962	6.4
Average number of Part B drugs per beneficiary	1.41	1.36	–0.5
Average payment per Part B drug per beneficiary	$3,206	$5,119	6.9
Total payments: All Part B vaccines (in billions)	$0.2	$1.2	28.0
Number of beneficiaries using a Part B vaccine (in millions)	13.4	16.1	2.6
Average total payments per beneficiary who used a Part B vaccine	$16	$76	24.7
Average number of Part B vaccines per beneficiary	1.08	1.25	2.1
Average payment per Part B vaccine per beneficiary	$15	$60	22.1

Note: This analysis includes all Part B drugs paid the average sales price plus 6 percent as well as the small group of Part B drugs that are paid based on the average wholesale price or reasonable cost or that are contractor priced. "Vaccines" refers to the three Part B–covered preventive vaccines: influenza, pneumococcal, and hepatitis B. Data include Part B drugs furnished by physicians, hospitals paid under the outpatient prospective payment system, and suppliers. Excluded from the analysis were any Part B drugs that were bundled or packaged in 2009 and/or 2016 (i.e., drugs that were packaged under the outpatient prospective payment system, regardless of the setting where they were furnished, and drugs furnished by dialysis facilities), drugs billed under not-otherwise-classified billing codes, blood and blood products (other than clotting factor), and data for critical access hospitals and Maryland hospitals. The average annual growth rates displayed in the table may differ slightly from the average annual growth rates calculated using the 2009 and 2016 values displayed in the table due to rounding.

Source: MedPAC analysis of Medicare claims data for physicians, hospital outpatient departments, and suppliers.

- Total payments by the Medicare program and beneficiaries for separately payable Part B drugs increased 11.1 percent per year, on average, between 2009 and 2016.
- Excluding Part B–covered preventive vaccines, Medicare spending on separately payable Part B drugs grew at an average rate of 10.7 percent per year between 2009 and 2016.
- The largest factor contributing to the growth in Part B drug spending (excluding vaccines) was the change in the price Medicare paid for drugs. Between 2009 and 2016, the average payment per drug increased by 6.9 percent per year, which reflects increases in the prices of existing drugs and changes in the mix of drugs, including the adoption of new, higher priced drugs.

(Chart continued next page)

Chart 10-2. Change in Medicare payments and utilization for separately payable Part B drugs, 2009–2016 (continued)

- Growth in the number of beneficiaries using nonvaccine Part B drugs (about 4.1 percent per year on average) also contributed to increased spending. The number of Part B drugs received per user declined from about 1.41 in 2009 to 1.36 in 2016, which modestly offset spending growth.

- Medicare covers three preventive vaccines: influenza, pneumococcal, and—for beneficiaries at high or medium risk—hepatitis B. Although a relatively small share of total Part B drug spending, spending on Part B vaccines grew at an average rate of about 28 percent per year between 2009 and 2016.

- Increased spending on the pneumococcal vaccine Prevnar-13 accounts for a significant portion of the growth in vaccine spending. A Centers for Disease Control and Prevention advisory committee recommended a one-time vaccination of Prevnar-13 for all adults ages 65 and older. Medicare Part B payments to physicians and outpatient hospitals for Prevnar-13 grew from roughly $100 million in 2014 to $900 million in 2015 and $650 million in 2016 (data not shown).

- Because Prevnar-13 has a higher price than other Part B–covered preventive vaccines, its increased use contributed to the substantial growth in the average payment per vaccine between 2009 and 2016.

Chart 10-3. Top 10 Part B drugs paid based on ASP, by type of provider, 2016 and 2017

	Dollars (in millions)					
	Total Part B drug spending		Physician and supplier Part B drug spending		HOPD Part B drug spending	
	2016	2017	2016	2017	2016	2017
Eylea	$2,211	$2,469	$2,073	$2,312	$138	$157
Rituxan	1,671	1,759	842	858	829	901
Opdivo	1,224	1,475	581	696	643	779
Neulasta	1,378	1,404	682	654	696	750
Remicade	1,343	1,346	834	821	509	525
Prolia/Xgeva	1,089	1,242	684	763	405	480
Avastin	1,115	1,071	563	524	552	547
Lucentis	1,045	1,039	1,006	1006	39	32
Keytruda	328	1,036	115	393	213	643
Herceptin	706	786	335	354	371	432
Total spending, top 10 drugs	**$12,109**	**$13,626**	**$7,716**	**$8,380**	**$4,393**	**$5,246**
Total spending, all Part B drugs	**$29,161**	**$32,043**	**$18,720**	**$19,788**	**$10,440**	**$12,255**

Note: ASP (average sales price), HOPD (hospital outpatient department). The 10 drugs shown in the chart reflect the Part B drug billing codes paid under the ASP methodology with the highest Medicare expenditures in 2017. Data for 2016 are shown for comparison. Data include Part B–covered drugs furnished by several provider types including physicians, suppliers, and hospital outpatient departments, but exclude those furnished by critical access hospitals, Maryland hospitals, and dialysis facilities. "Drug spending" includes Medicare program payments and beneficiary cost sharing. "Total spending, all Part B drugs" reflects all products, whether paid based on ASP plus 6 percent or another method. Data exclude blood and blood products (other than clotting factor). Components may not sum to totals due to rounding.

Source: MedPAC and Acumen LLC analysis of Medicare claims data.

- Part B drugs are billed under more than 700 billing codes, but spending is concentrated. Medicare spending (including cost sharing) on the top 10 drugs paid under the ASP system totaled about $13.6 billion in 2017, about 43 percent of all Part B drug spending that year.
- As of 2017, all of the top 10 Part B drugs are biologics. Many of these products are used to treat cancer or its side effects (Rituxan, Opdivo, Neulasta, Prolia/Xgeva, Avastin, Keytruda, Herceptin). Drugs used to treat age-related macular degeneration (Eylea, Lucentis, Avastin) and rheumatoid arthritis (Remicade and Rituxan) are also in the top 10.
- Medicare spending on immune globulin (for which there are several products billed through separate billing codes) amounted to more than $1.4 billion in 2017 (data not shown).
- Medicare Part B covers three preventive vaccines—influenza, pneumococcal, and, for certain beneficiaries, hepatitis B—and pays for them at a rate of 95 percent of the average wholesale price or reasonable cost. In 2017, Medicare Part B spent approximately $645 million on pneumococcal vaccine, $574 million on influenza vaccine, and $36 million on hepatitis B vaccine furnished by physicians, hospital outpatient departments, suppliers, end-stage renal dialysis facilities, and certain other types of providers (data not shown).

Chart 10-4. Growth in ASP for the 20 highest expenditure Part B drugs, 2005–2019

Part B drug	Total Medicare payments in 2017 (in billions)	Average annual ASP growth 2005–2010	2010–2018	2018–2019	2005–2019	Earliest year of ASP data if not 2005
Eylea	$2.5	N/A	–0.2%*	–0.9%	–0.3%	2013
Rituxan	1.8	5.0%	5.7	8.7	5.6	
Opdivo	1.5	N/A	2.8*	2.7	2.7	2016
Neulasta	1.4	0.8	8.2	5.4	5.3	
Remicade	1.3	2.0	4.9	–10.7	2.7	
Prolia/Xgeva	1.2	N/A	3.5*	4.9	3.7	2012
Avastin	1.1	0.1	3.7	5.9	2.5	
Lucentis	1.0	–0.2*	–0.6	–5.8	–1.0	2008
Keytruda	1.0	N/A	2.3*	2.3	2.3	2016
Herceptin	0.8	4.1	5.7	6.3	5.1	
Orencia	0.7	1.4*	12.1	6.3	8.8	2007
Velcade	0.5	6.1	2.6	–2.8	3.4	
Alimta	0.5	4.5	3.4	2.7	3.8	
Darzalex	0.4	N/A	5.5*	5.7	5.6	2017
Sandostatin LAR	0.4	4.9	7.3	3.8	6.2	
Xolair	0.4	4.6	7.8	6.0	6.5	
Gammagard	0.4	10.3	0.7	3.7	2.7	
Botox	0.3	3.1	1.3	0.2	1.9	
Soliris	0.3	1.3*	2.9	0.9	2.5	2008
Cimzia	0.3	N/A	9.9	–0.6	8.7	2010
Consumer price index for urban consumers		2.6	1.7	1.6	2.0	

Note: ASP (average sales price), N/A (not applicable). Growth rates for ASP are calculated from first quarter to first quarter of each year. "Medicare payments" includes Medicare program payments and beneficiary cost sharing for these drugs furnished by physicians, suppliers, and hospital outpatient departments, but excludes those furnished by critical access hospitals, Maryland hospitals, and dialysis facilities. Vaccines paid 95 percent of the average wholesale price are also excluded. *Indicates that ASP payment rates were not available for the full period listed, and the average annual growth rate was calculated based on the earliest year that a first-quarter payment rate was available.

Source: MedPAC analysis of CMS ASP pricing files and consumer price index for all urban consumers data from the Bureau of Labor Statistics and MedPAC and Acumen LLC analysis of Medicare claims data.

- Between 2018 and 2019, the ASP grew by more than 5 percent for 7 of the 20 highest expenditure Part B drugs. For 13 of the top 20 Part B drugs, ASP increased faster than the consumer price index for urban consumers between 2018 and 2019.

- Eleven of the top 20 Part B drugs have been on the market since 2005 or earlier. Over the 14 years the ASP payment system has been in existence (2005 to 2019), the cumulative increase in ASP for these 11 products ranged from 30 percent to 140 percent, with 5 of these products' ASPs increasing by more than 100 percent (data not shown).

- Of those drugs that entered the market before 2010, most products' ASP has grown more rapidly after 2010 than in the first five years of the ASP payment system (2005 to 2010).

Chart 10-5. Trends in Medicare Part B payment rates for two originator biologics and their biosimilar products

	Originator Neupogen and biosimilars Zarxio and Granix*			Originator Remicade and biosimilars Inflectra and Renflexis		
	Originator Neupogen's payment rate	Biosimilars' payment rate as share of originator's*	Share of total units accounted for by biosimilars*	Originator Remicade's payment rate	Biosimilars' payment rate as share of originator's	Share of total units accounted for by biosimilars
2016 Q1	$1.01	76–96%	25%	$79.91	N/A	N/A
2016 Q3	1.00	76–87	46	82.28	N/A	N/A
2017 Q1	1.00	71–78	51	82.22	122%	0%
2017 Q3	1.01	64–72	57	85.74	94	4
2018 Q1	1.00	61–69	63	85.81	88	6
2018 Q3	1.02	58–64	67	83.90	77–83	9
2019 Q1	1.00	58–63	N/A	76.65	75–81	N/A

Note: Q1 (first quarter), Q3 (third quarter), N/A (not available). An originator biologic is a drug product derived from a living organism. A biosimilar product is a follow-on product that is approved based on being highly similar to the originator biologic.
*Although Granix is not a biosimilar in the U.S. (because it was approved under the standard Food and Drug Administration approval process for new biologics), we include it here because it was approved as a biosimilar to Neupogen in Europe and it functions as a competitor to Neupogen and Zarxio in the U.S. market.

Source: MedPAC analysis of payment rates from CMS ASP pricing files. MedPAC and Acumen LLC analysis of Medicare claims data.

- An originator biologic is a product derived from a living organism. A biosimilar product is a follow-on product that is approved based on being highly similar to the originator biologic.

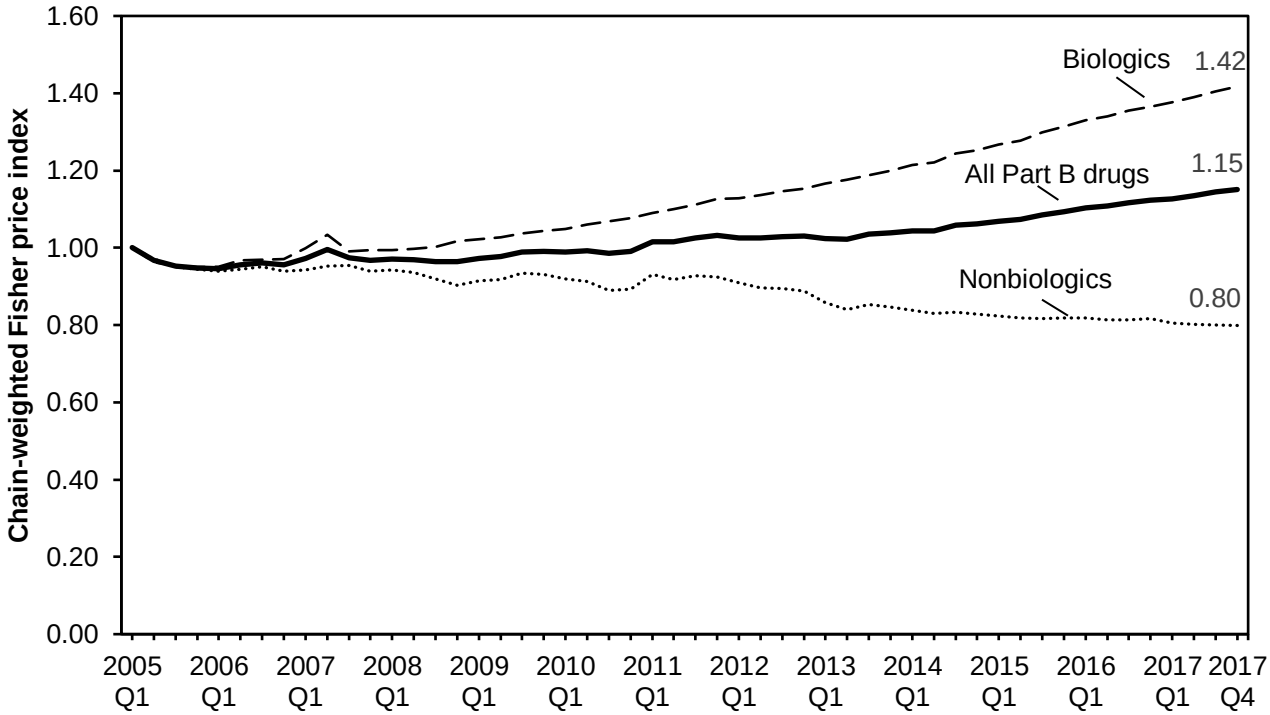
- Under Part B, Medicare pays for an originator biologic at 106 percent of its own average sales price (ASP). For biosimilars, Medicare pays 100 percent of the biosimilar's ASP plus 6 percent of the originator product's ASP.

- Medicare payment rates for biosimilars are lower than those of the corresponding originator biologics due to biosimilars' lower ASP. In the first quarter of 2019, the payment rates for the biosimilar Zarxio and Granix were 63 percent and 58 percent, respectively, of the payment rate for the originator Neupogen. The biosimilars Renflexis and Inflectra had payment rates that were 81 percent and 75 percent, respectively, of the originator Remicade's payment rate that quarter.

- Despite the entry of Zarxio and Granix, Neupogen has not lowered its price (as measured by ASP), even though market share has shifted significantly to biosimilars. As of the third quarter of 2018, two-thirds of the volume was accounted for by Zarxio and Granix, but one-third of the volume remained with the higher priced originator product.

- Following biosimilar entry, Remicade's payment rate initially increased 4 percent between the first quarter of 2017 and the first quarter of 2018, and then declined 11 percent between the first quarter of 2018 and the first quarter of 2019. Despite the decline, Remicade's payment rate remains high from a historical perspective since it increased 55 percent between 2005 and 2017 (data not shown). Uptake of the biosimilars has been modest to date, with Remicade accounting for 91 percent of the volume as of the third quarter of 2018.

Chart 10-6. Price indexes for Medicare Part B drugs, 2005–2017

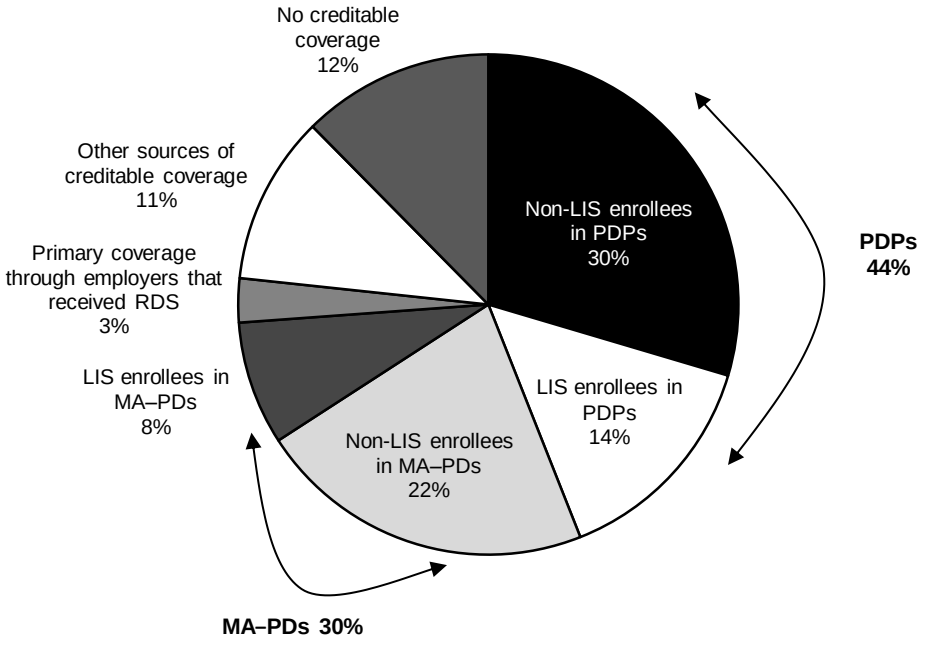


Note: Q1 (first quarter), Q4 (fourth quarter). The Part B price indexes reflect growth in the average sales price of Part B–covered drugs over time, measured for individual drugs at the level of the Healthcare Common Procedure Coding System billing code. These measures of price growth reflect growth in the price of individual products but do not reflect changes in price due to the introduction of new products or the changes in the mix of products used. The Part B price index for biologics in this chart and in Chart 10-27 are different due to the different time periods of analysis.

Source: Acumen LLC analysis for MedPAC.

- The Part B price indexes reflect growth in the average sales price (ASP) at the individual product level and do not reflect changes in price that occur as a result of changes in the mix of drugs used or the introduction of new, higher priced drugs.
- Measured by the change in the ASP of individual Part B–covered drugs, the prices of Part B–covered drugs rose by an average of about 15 percent cumulatively between 2005 and 2017 (an index of 1.15).
- Underlying this overall trend in the price index are different patterns by type of product. The price index for Part B–covered biologics increased by 42 percent between 2005 and 2017 (an index of 1.42). In contrast, the price index for nonbiologics declined by 20 percent (an index of 0.80) over this period. The nonbiologic group includes single-source drugs and drugs with generic competition. The downward price trend for nonbiologics in part reflects patent expiration and generic entry for some of these products.

Chart 10-7. In 2017, 88 percent of Medicare beneficiaries were enrolled in Part D plans or had other sources of creditable drug coverage



Note: LIS (low-income [drug] subsidy), PDP (prescription drug plan), MA–PD (Medicare Advantage–Prescription Drug [plan]), RDS (retiree drug subsidy). "Creditable coverage" means the value of drug benefits is equal to or greater than that of the basic Part D benefit.

Source: MedPAC analysis of the Medicare denominator file 2017.

- In 2017, more than three-quarters of Medicare beneficiaries either signed up for Part D plans or had prescription drug coverage through employer-sponsored plans under Medicare's RDS. (If an employer agrees to provide primary drug coverage to its retirees with a benefit value that is equal to or greater than that of Part D (called "creditable coverage"), Medicare provides the employer with a tax-free subsidy for 28 percent of each eligible individual's drug costs that fall within a specified range of spending.)

- The share of Medicare beneficiaries in 2017 with primary coverage through employers that received the RDS (3 percent of beneficiaries) was substantially smaller than in 2010 (14 percent; data not shown) because of a shift of enrollees into Part D employer group waiver plans. That shift reflects two sets of changes made by the Patient Protection and Affordable Care Act of 2010 that (1) increased the generosity of the Part D benefit by phasing out the coverage gap and (2) altered the tax treatment of drug expenses covered by the RDS.

- Over 22 percent of Medicare beneficiaries received Part D's LIS in 2017. Of all LIS beneficiaries, nearly two-thirds of them (14 percent of all Medicare beneficiaries) were enrolled in stand-alone PDPs, and the remaining beneficiaries (8 percent) were in MA–PDs.

(Chart continued next page)

Chart 10-7. In 2017, 88 percent of Medicare beneficiaries were enrolled in Part D plans or had other sources of creditable drug coverage (continued)

- Other enrollees in stand-alone PDPs accounted for 30 percent of all Medicare beneficiaries. Another 22 percent of Medicare beneficiaries were enrolled in MA–PDs and did not receive low-income subsidies.

- Eleven percent of Medicare beneficiaries had other sources of creditable drug coverage, but that coverage did not affect Medicare program spending. Examples of these other sources of creditable coverage include the Federal Employees Health Benefits Program, TRICARE, Department of Veterans Affairs, and employers not receiving the RDS.

- Twelve percent of Medicare beneficiaries had no drug coverage or coverage that was less generous than Part D's defined standard benefit.

Chart 10-8. Changes in parameters of the Part D defined standard benefit over time

	2006	2017	2018	2019	Cumulative change 2006–2019
Deductible	$250.00	$400.00	$405.00	$415.00	66%
Initial coverage limit	2,250.00	3,700.00	3,750.00	3,820.00	70%
Annual out-of-pocket threshold	3,600.00	4,950.00	5,000.00	5,100.00	42%
Total covered drug spending at annual out-of-pocket threshold	5,100.00	8,017.16	8,417.60	8,139.54	60%
Cost sharing above the annual out-of-pocket threshold is the greater of 5% coinsurance or these amounts:					
Copay for generic/preferred multisource drugs	2.00	3.30	3.35	3.40	70%
Copay for other prescription drugs	5.00	8.25	8.35	8.50	70%

Note: Under Part D's defined standard benefit, the enrollee pays the deductible and then 25 percent of covered drug spending (75 percent is paid by the plan) until total covered drug spending reaches the initial coverage limit (ICL). Before 2011, enrollees exceeding the ICL were responsible for 100 percent of covered drug spending up to the annual out-of-pocket (OOP) threshold. Beginning in 2011, enrollees pay reduced cost sharing in the coverage gap. For 2011 and later years, the amount of total covered drug spending at the annual OOP threshold depended on the mix of brand-name and generic drugs filled during the coverage gap. The amounts shown are for individuals not receiving Part D's low-income subsidy who have no source of supplemental coverage. Cost sharing paid by most sources of supplemental coverage does not count toward this threshold. The amount for 2019 is lower because of a change in law that causes 95 percent of an enrollee's spending for brand-name drugs in Part D's coverage-gap phase to count toward the OOP threshold, compared with 85 percent in 2018. Above the OOP limit, the enrollee pays 5 percent coinsurance or the respective copay shown above, whichever is greater.

Source: CMS Office of the Actuary.

- The Medicare Prescription Drug, Improvement, and Modernization Act of 2003 specified a defined standard benefit structure for Part D. In 2019, the standard benefit has a $415 deductible, 25 percent coinsurance on covered drugs until the enrollee reaches $3,820 in total covered drug spending, and then a coverage gap until OOP spending reaches the annual threshold. (The total dollar amount of drug spending at which a beneficiary reaches the OOP threshold varies from person to person, depending on the mix of brand-name and generic prescriptions filled. CMS estimates that in 2019, a person who does not receive Part D's low-income subsidy and has no supplemental coverage would, on average, reach the threshold at $8,139.54 in total drug spending.) Before 2011, enrollees were responsible for paying the full discounted price of drugs filled during the coverage gap. Because of changes made by the Patient Protection and Affordable Care Act (PPACA) of 2010, enrollees pay reduced cost sharing for drugs filled in the coverage gap. In 2019, the cost sharing for drugs filled during the gap phase is about 25 percent for brand-name drugs and 37 percent for generic drugs. Enrollees with drug spending that exceeds the annual threshold pay the greater of $3.40 to $8.50 or 5 percent coinsurance per prescription.

(Chart continued next page)

Chart 10-8. Changes in parameters of the Part D defined standard benefit over time (continued)

- Most parameters of this defined standard benefit structure have changed over time at the same rate as the annual change in average total drug expenses of Medicare beneficiaries enrolled in Part D, with cumulative changes of around 70 percent between 2006 and 2019. By comparison, Part D's annual out-of-pocket threshold grew by 42 percent over the same period, reflecting changes in PPACA that aimed to reduce the coverage gap.

- Within certain limits, sponsoring organizations may offer Part D plans that have the same actuarial value as the defined standard benefit but a different benefit structure, and most sponsoring organizations do offer such plans. For example, a plan may use tiered copayments rather than 25 percent coinsurance or have no deductible but use cost-sharing requirements that are equivalent to a rate higher than 25 percent. Defined standard benefit plans and plans that are actuarially equivalent to the defined standard benefit are both known as "basic benefits."

- Once a sponsoring organization offers one plan with basic benefits within a prescription drug plan region, it may also offer a plan with enhanced benefits—basic and supplemental coverage combined.

- The Bipartisan Budget Act signed into law in 2018 closes Part D's coverage gap one year earlier than the previously scheduled 2020 time frame. In 2019, the standard benefit includes 25 percent cost sharing in the coverage-gap phase for brand-name drugs and 37 percent for generics. Under the law, manufacturers of brand-name drugs must provide a 70 percent discount in the coverage gap, and plan sponsors will be responsible for covering only 5 percent of the cost of brand-name drugs in that same phase of the benefit.

Chart 10-9. Characteristics of stand-alone Medicare PDPs

	2018				2019			
	Plans		Enrollees as of February 2018		Plans		Enrollees as of February 2019	
	Number	Percent	Number (in millions)	Percent	Number	Percent	Number (in millions)	Percent
Total	782	100%	20.8	100%	901	100%	20.8	100%
Type of organization								
National	677	87	19.4	93	746	83	19.4	93
Other	105	13	1.4	7	155	17	1.4	7
Type of benefit								
Defined standard	0	0	0.0	0	0	0	0.0	0
Actuarially equivalent	361	46	12.4	60	348	39	12.1	58
Enhanced	421	54	8.4	40	553	61	8.7	42
Type of deductible								
Zero	291	37	9.4	45	263	29	8.1	39
Reduced	88	11	1.9	9	170	19	3.3	16
Defined standard*	403	52	9.5	46	468	52	9.4	45
Some formulary tiers not subject to a deductible								
Some	258	33	6.5	31	414	46	8.2	39
None	524	46	14.4	69	487	54	12.6	61

Note: PDP (prescription drug plan). The PDPs and enrollment described here exclude employer-only plans and plans offered in U.S. territories. "National" data reflect the total number of plans for organizations with at least 1 PDP in each of the 34 PDP regions. Components may not sum to totals due to rounding. "Actuarially equivalent" includes both actuarially equivalent standard and basic alternative benefits. "Enhanced" refers to plans with basic plus supplemental coverage. *The defined standard benefit's deductible was $405 in 2018 and is $415 in 2019.

Source: MedPAC analysis of CMS landscape, premium, and enrollment data.

- Plan sponsors are offering 901 stand-alone PDPs in 2019 compared with 782 in 2018—an increase of more than 15 percent.
- In 2019, 83 percent of all PDPs are offered by sponsoring organizations that have at least 1 PDP in each of the 34 PDP regions (shown as "national" organizations in the table). Plans offered by those national sponsors account for 93 percent of all PDP enrollment.
- For 2019, 61 percent of PDP offerings include enhanced benefits (basic plus supplemental coverage), up from 54 percent in 2018. The share of PDPs with actuarially equivalent benefits (having the same average value as the defined standard benefit but with alternative benefit designs) declined to 39 percent from 46 percent. Actuarially equivalent plans continue to attract the largest share of PDP enrollees (58 percent), but the share of enrollees choosing enhanced benefit plans rose slightly to 42 percent in 2019 compared with 40 percent in 2018.
- In 2019, 52 percent of PDPs use the same $415 deductible as in Part D's defined standard benefit, 29 percent have no deductible, and 19 percent use a deductible less than $415. Only 39 percent of PDP enrollees are in plans with no deductible.
- In 2019, 46 percent of all PDPs designate certain formulary tiers that are not subject to the deductible. If, for example, a PDP used such a designation for preferred generic drugs, an enrollee would pay just the plan's cost sharing for that tier rather than the full cost of the prescription up to the amount of the deductible. In 2019, 39 percent of PDP enrollees were in such plans, up from 31 percent in 2018.

Chart 10-10. Characteristics of MA–PDs

	2018				2019			
	Plans		Enrollees as of February 2018		Plans		Enrollees as of February 2019	
	Number	Percent	Number (in millions)	Percent	Number	Percent	Number (in millions)	Percent
Totals	2,003	100%	12.7	100%	2,414	100%	13.8	100%
Type of organization								
Local HMO	1,422	71	9.1	72	1,601	66	9.7	70
Local PPO	519	26	2.6	20	751	31	3.3	24
PFFS	30	1	0.1	1	29	1	0.1	1
Regional PPO	32	2	0.9	7	33	1	0.8	6
Type of benefit								
Defined standard	22	1	0.1	<0.5	37	2	0.1	<0.5
Actuarially equivalent	101	5	0.5	4	83	3	0.2	2
Enhanced	1,880	94	12.1	96	2,294	95	13.5	98
Type of deductible								
Zero	908	45	5.4	43	1,116	46	6.4	46
Reduced	988	49	6.9	54	1,138	47	7.0	50
Defined standard*	107	5	0.4	3	160	7	0.5	3
Some formulary tiers not subject to a deductible								
Some	1,042	52	7.0	55	1,225	51	7.2	52
None	961	48	5.7	45	1,189	49	6.6	48

Note: MA–PD (Medicare Advantage–Prescription Drug [plan]), HMO (health maintenance organization), PPO (preferred provider organization), PFFS (private fee-for-service). The MA–PDs and enrollment described here exclude employer-only plans, plans offered in U.S. territories, 1876 cost plans, special needs plans, demonstrations, and Part B–only plans. Components may not sum to totals due to rounding. "Actuarially equivalent" includes both actuarially equivalent standard and basic alternative benefits. "Enhanced" refers to plans with basic plus supplemental coverage.
*The defined standard benefit's deductible was $405 in 2018 and is $415 in 2019.

Source: MedPAC analysis of CMS landscape, premium, and enrollment data.

- There are over 20 percent more MA–PDs plans in 2019 than in 2018. Sponsors are offering 2,414 MA–PDs in 2019 compared with 2,003 the year before. HMOs remain the dominant type of MA–PD, making up 66 percent of all (unweighted) offerings in 2019. Between 2018 and 2019, the number of drug plans offered by local PPOs increased from 519 plans to 751 plans.

- A larger share of MA–PDs than stand-alone prescription drug plans (PDPs) offer enhanced benefits (compare Chart 10-10 with Chart 10-9). In 2019, 61 percent of all PDPs have enhanced benefits compared with 95 percent of MA–PDs. In 2019, enhanced MA–PDs attracted 98 percent of total MA–PD enrollment.

- Forty-six percent of MA–PDs have no deductible in 2019, and they attracted 46 percent of all MA–PD enrollees.

- In 2019, 51 percent of MA–PDs designated certain cost-sharing tiers of their formularies that are not subject to a deductible. Those plans account for 52 percent of MA–PD enrollment.

Chart 10-11. Change in average Part D premiums, 2015–2019

	Average monthly premium weighted by enrollment					Cumulative change in weighted average premium, 2015–2019
	2015	2016	2017	2018	2019	
All plans	**$30**	**$31**	**$32**	**$32**	**$29**	**–1%**
Basic plans	26	28	30	30	32	20
Enhanced plans						
Basic benefits	27	27	27	26	22	–20
Supplemental benefits	6	7	6	7	6	9
Total premium	33	33	33	33	28	–15
All basic coverage	27	27	29	28	25	–5
PDPs	**37**	**39**	**41**	**41**	**40**	**7**
Basic coverage	28	29	31	31	32	13
Enhanced coverage						
Basic benefits	39	41	43	42	35	–9
Supplemental benefits	9	12	11	15	15	64
Total premium	48	53	54	57	50	5
All basic coverage	33	34	36	35	33	1
MA–PDs, including SNPs	**18**	**18**	**19**	**18**	**16**	**–10**
Basic coverage	21	22	26	28	28	35
Enhanced coverage						
Basic benefits	14	15	16	15	13	–7
Supplemental benefits	2	2	2	1	1	–50
Total premium	17	17	18	17	14	–12
All basic coverage	17	16	18	17	15	–9
MA–PD buy-down of basic premium	14	15	16	16	16	15
MA–PD buy-down of supplemental benefits	13	14	15	16	17	32
Base beneficiary premium	33.13	34.10	35.63	35.02	33.19	<0.5

Note: PDP (prescription drug plan), MA–PD (Medicare Advantage–Prescription Drug [plan]), SNP (special needs plan). All calculations exclude employer-only groups and plans offered in U.S. territories. In addition, MA–PDs exclude Part B–only plans, demonstrations, and 1876 cost plans. The MA–PD data reflect the portion of Medicare Advantage plans' total monthly premium attributable to Part D benefits for plans that offer Part D coverage, as well as Part C rebate dollars that were used to offset Part D premium costs. The fact that average premiums for enhanced MA–PDs are lower than for basic MA–PDs could reflect several factors such as changes in enrollment among plan sponsors and counties of operation and differences in the average health status of plan enrollees. Cumulative changes were calculated from unrounded data. Components may not sum to totals due to rounding.

Source: MedPAC analysis of CMS landscape, plan report, enrollment data, and bid data.

(Chart continued next page)

Chart 10-11. Change in average Part D premiums, 2015–2019 (continued)

- Part D enrollees can select between plans with basic or enhanced benefits (which combine basic and supplemental coverage). Medicare aims to subsidize 74.5 percent of the average cost of basic benefits; enrollees pay premiums for the remaining 25.5 percent and all of the cost of any supplemental benefits. (For more about how plan premiums are determined, see Part D *Payment Basics* at http://www.medpac.gov/docs/default-source/payment-basics/medpac_payment_basics_18_partd_final_sec.pdf?sfvrsn=0.)

- The overall average premium paid by enrollees for any type of Part D coverage declined from $32 per month in 2018 to $29 per month in 2019. One reason for the decline was a change in law that, beginning in 2019, required manufacturers of brand-name drugs to increase the discount they provide in the coverage gap to 70 percent from 50 percent in 2018. This change helped reduce the projected cost to Part D plans of providing basic benefits. Over the period from 2015 to 2019, year-to-year changes in average premiums have varied by type of benefit (basic vs. enhanced) and type of plan (PDP vs. MA−PD); the changes have not necessarily corresponded to changes observed in the base beneficiary premium.

- Across all basic plans and the basic portion of enhanced plans, the average premium for basic benefits fell from $27 in 2015 to $25 per month in 2019, a cumulative decline of 5 percent. This decline occurred despite very rapid growth in spending for Part D's catastrophic phase of the benefit (data not shown). In the catastrophic phase, Medicare subsidizes 80 percent of enrollees' drug spending. (For more information about Medicare's Part D spending, see Chapter 14 of the Commission's March 2019 report to the Congress at http://medpac.gov/docs/default-source/reports/mar19_medpac_ch14_sec.pdf?sfvrsn=0.)

- Over the five-year period, the average enrollee premium for basic coverage in PDPs ranged between a low of $28 in 2015 and a high of $32 per month in 2019, increasing by a cumulative 13 percent. Among enhanced plans offered by PDPs, the average enrollee premium has ranged between $48 in 2015 to $57 in 2018, increasing by a cumulative 5 percent from 2015 to 2019. Of the $50 average premium in 2019 among enhanced PDPs, $35 was for basic benefits and $15 was for supplemental benefits. The portion of enhanced premiums attributable to supplemental benefits has grown quickly while the portion for basic benefits has declined.

- The average Part D premium paid by beneficiaries enrolled in MA−PDs with basic coverage ranged between a low of $21 in 2015 and a high of $28 per month in 2019, increasing by a cumulative 35 percent. The average premium paid by beneficiaries enrolled in MA−PDs offering enhanced coverage has decreased from $17 in 2015 to $14 in 2019, a cumulative 12 percent decrease. MA−PD sponsors typically use a portion of Medicare's Part C (Medicare Advantage) payments to "buy down" the premiums that plan enrollees would otherwise have to pay for Part D basic premiums and supplemental benefits. Because of those Part C payment "rebates," in 2019, MA−PD enrollees avoided having to pay $16 per month in basic premiums and an additional $17 per month for supplemental coverage, on average.

Chart 10-12. More premium-free PDPs for LIS enrollees in 2019

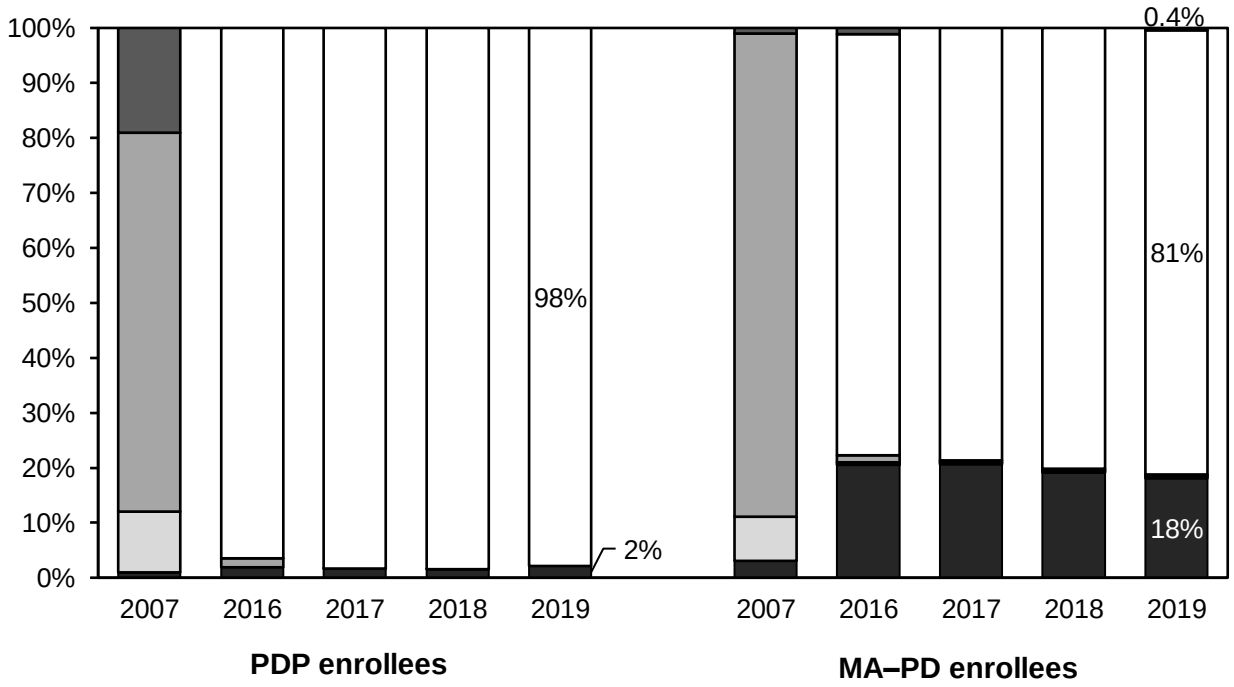
		Number of PDPs			Number of PDPs that have zero premium for LIS enrollees		
PDP region	State(s)	2018*	2019*	Difference	2018*	2019	Difference
1	ME, NH	24	26	2	7	7	0
2	CT, MA, RI, VT	22	26	4	7	7	0
3	NY	20	23	3	8	8	0
4	NJ	22	26	4	7	6	–1
5	DC, DE, MD	21	25	4	10	9	–1
6	PA, WV	26	30	4	9	9	0
7	VA	24	27	3	6	6	0
8	NC	24	28	4	7	7	0
9	SC	22	26	4	4	3	–1
10	GA	24	26	2	5	4	–1
11	FL	21	27	6	2	2	0
12	AL, TN	25	29	4	6	6	0
13	MI	24	29	5	9	9	0
14	OH	23	26	3	6	7	1
15	IN, KY	24	26	2	7	7	0
16	WI	25	28	3	8	8	0
17	IL	24	27	3	8	7	–1
18	MO	24	26	2	4	4	0
19	AR	23	26	3	4	4	0
20	MS	20	24	4	6	5	–1
21	LA	21	26	5	6	8	2
22	TX	24	27	3	7	5	–2
23	OK	23	28	5	7	7	0
24	KS	23	26	3	4	4	0
25	IA, MN, MT, ND, NE, SD, WY	23	28	5	5	6	1
26	NM	24	27	3	7	7	0
27	CO	24	26	2	6	7	1
28	AZ	23	28	5	10	10	0
29	NV	24	26	2	3	3	0
30	OR, WA	22	26	4	7	7	0
31	ID, UT	25	26	1	8	8	0
32	CA	25	30	5	5	7	2
33	HI	20	24	4	4	4	0
34	AK	19	22	3	7	7	0
	Total	782	901	119	216	215	–1

Note: LIS (low-income [drug] subsidy), PDP (prescription drug plan).
*These figures include 2 plans in 2018 and 2 in 2019 that did not accept new enrollees because of CMS sanctions.

Source: MedPAC based on 2018 and 2019 Part D plan report file provided by CMS.

- The total number of stand-alone PDPs increased by 15 percent, from 782 in 2018 to 901 in 2019. The median number of plans offered in PDP regions increased to 26 plans from 24 in 2018 (data not shown). In 2019, Alaska has the fewest stand-alone PDPs, with 22, and Regions 6 (Pennsylvania, West Virginia) and 32 (California) had the most, with 30.
- In 2019, 215 PDPs qualify as premium free to LIS enrollees. With the exception of Florida, which has only two plans with no premium for LIS enrollees, at least three premium-free PDPs are available in any given region.

Chart 10-13. In 2019, most Part D enrollees are in plans that use a five-tier formulary structure

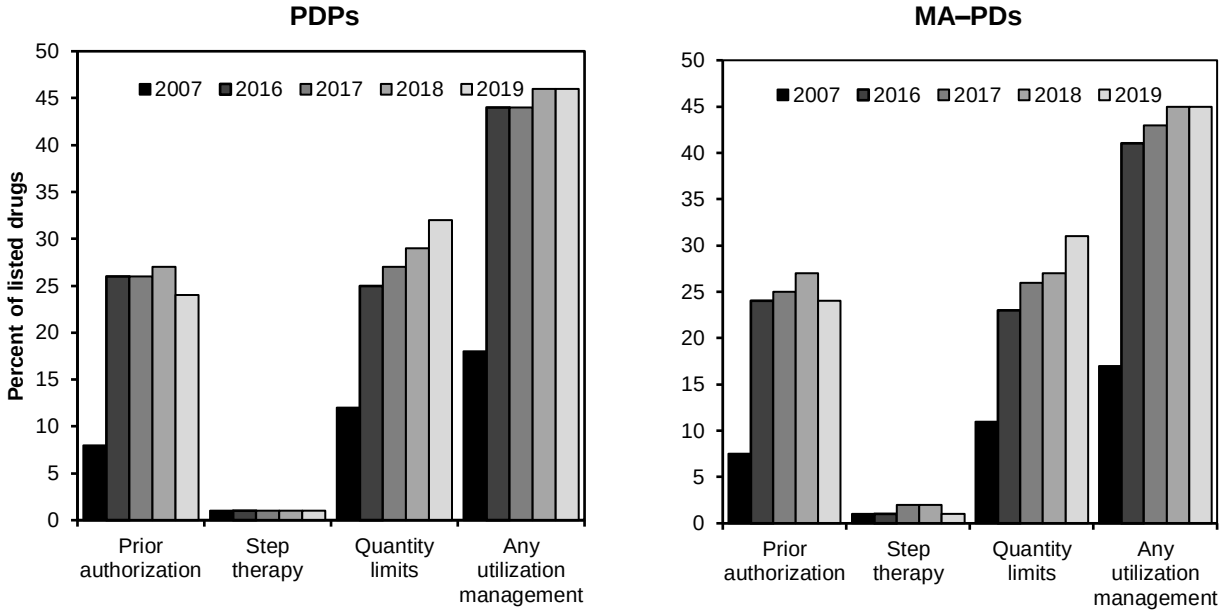


Note: PDP (prescription drug plan), MA–PD (Medicare Advantage–Prescription Drug [plan]). Calculations are weighted by enrollment. All calculations exclude employer-only groups and plans offered in U.S. territories. In addition, MA–PDs exclude demonstration programs, special needs plans, and 1876 cost plans. Less than 1 percent of MA−PD enrollees are in plans that have only two tiers (for generic and brand-name drugs) or use another tier structure. Components may not sum to totals due to rounding. All stand-alone PDP enrollees and about 98 percent of MA−PD enrollees have a specialty tier in addition to the tiers listed above. The algorithm used to classify formularies was modified beginning with 2016 data, but this does not materially affect results.

Source: MedPAC analysis of formularies submitted to CMS.

- Most Part D enrollees choose plans that have a five-tier structure: two generic, one preferred brand-name tier, and one nonpreferred drug tier (which may include both brand-name and generic drugs), plus a specialty tier. In 2019, nearly all PDP enrollees continue to enroll in plans with this five-tier structure. Eighty-one percent of MA–PD enrollees are in such plans in 2019, a slight increase from 80 percent in 2018.
- For enrollees in PDPs with a five-tier structure, the median copay in 2019 is $40 for a preferred brand-name drug and 40 percent coinsurance for a nonpreferred drug (data not shown). The median copay for a generic drug is $1 for drugs on a lower tier and $5 for those on a higher tier. For MA–PD enrollees, in 2019, the median copay is $47 for a preferred brand and $100 for a nonpreferred brand. The median copays for generic drugs are $2 and $10 for the two generic tiers, respectively.
- All stand-alone PDPs and about 98 percent of MA–PDs use a specialty tier for drugs that have a negotiated price of $670 per month or more. In 2019, median cost sharing for a specialty-tier drug is 25 percent among PDPs and 31 percent among MA–PDs (data not shown).

Chart 10-14. In 2019, PDPs and MA–PDs apply some utilization management to about 45 percent of listed drugs



Note: PDP (prescription drug plan), MA–PD (Medicare Advantage–Prescription Drug [plan]). Calculations are weighted by enrollment. All calculations exclude employer-only groups and plans offered in U.S. territories. In addition, MA–PDs exclude demonstration programs, special needs plans, and 1876 cost plans. Values reflect the share of listed chemical entities that are subject to utilization management, weighted by plan enrollment. "Prior authorization" means that the enrollee must get preapproval from the plan before coverage. "Step therapy" refers to a requirement that the enrollee try specified drugs before being prescribed other drugs in the same therapeutic category. "Quantity limits" means that plans limit the number of doses of a drug available to the enrollee in a given time period. The algorithm used to classify formularies was modified beginning with 2016 data, but that does not materially affect results.

Source: MedPAC analysis of formularies submitted to CMS.

- In addition to the number of drugs listed on a plan's formulary, plans' processes for nonformulary exceptions and use of utilization management tools—prior authorization (preapproval for coverage), quantity limits (limitations on the number of doses of a particular drug covered in a given period), and step therapy requirements (enrollees must try specified drugs before being prescribed other drugs in the same therapeutic category)—can affect access to certain drugs.

- In 2019, the use of some form of utilization management, on average, remained unchanged from 2018—46 percent of drugs listed on a plan's formulary in stand-alone PDPs and 45 percent in MA–PDs. Part D plans typically use quantity limits or prior authorization to manage enrollees' prescription drug use.

- Among the drugs listed on plan formularies, on average, the share that requires prior authorization in 2019 decreased to less than a quarter for both stand-alone PDPs and MA–PDs, while the share with quantity limits increased for both types of plans. In 2019, on average, quantity limits apply to 32 percent of drugs listed on formularies of stand-alone PDPs and 31 percent of the drugs listed on formularies of MA–PDs. The share of drugs listed on plan formularies that requires the use of step therapy remained very low for both stand-alone PDPs and MA–PDs.

Chart 10-15. Characteristics of Part D enrollees, 2017

	All Medicare	Part D	Plan type		Subsidy status	
			PDP	MA–PD	LIS	Non-LIS
Beneficiaries[a] (in millions)	61.3	45.2	27.0	18.3	13.7	31.5
Percent of all Medicare	100%	74%	44%	30%	22%	51%
Gender						
Male	46%	43%	43%	43%	40%	44%
Female	54	57	57	57	60	56
Race/ethnicity						
White, non-Hispanic	74	73	78	66	54	82
African American, non-Hispanic	10	11	10	13	20	7
Hispanic	9	10	6	15	17	7
Asian	3	3	3	4	6	2
Other	3	3	3	3	3	3
Age (years)[b]						
<65	17	18	19	16	41	8
65–69	27	25	24	25	18	28
70–74	21	21	20	23	13	25
75–79	14	15	15	16	10	17
80+	21	21	22	20	18	22
Urbanicity[c]						
Metropolitan	82	83	78	89	81	83
Micropolitan	10	10	12	7	11	10
Rural	7	7	9	4	8	7

Note: PDP (prescription drug plan), MA–PD (Medicare Advantage–Prescription Drug [plan]), LIS (low-income [drug] subsidy). Components may not sum to totals due to rounding.
[a]Figures for "All Medicare" and "Part D" include all beneficiaries with at least one month of enrollment in the respective program. A beneficiary was classified as "LIS" if that individual received Part D's LIS at some point during the year. For individuals who switched plan types during the year, classification into plan types was based on the greater number of months of enrollment.
[b]Age as of July 2017.
[c]Urbanicity designation is based on the Office of Management and Budget's core-based statistical areas as of July 2015. A metropolitan area contains a core urban area of 50,000 or more people, and a micropolitan area contains an urban core of at least 10,000 (but fewer than 50,000) people. About 1 percent of Medicare beneficiaries were excluded because of an unidentifiable core-based statistical area designation.

Source: MedPAC analysis of Medicare Part D denominator file from CMS.

- In 2017, over 45 million Medicare beneficiaries (74 percent) were enrolled in Part D at some point in the year. Twenty-seven million were in stand-alone PDPs, and the remaining 18.3 million were in MA–PDs. Just under 14 million enrollees received Part D's LIS.
- Demographic characteristics of Part D enrollees are generally similar to the overall Medicare population, with the exception of gender (Part D enrollees are more likely to be female). MA–PD enrollees are less likely to be disabled beneficiaries under age 65 and more likely to be Hispanic or African American compared with PDP enrollees; LIS enrollees are more likely to be female, minority, and disabled beneficiaries under age 65 compared with non-LIS enrollees.
- Patterns of enrollment by urbanicity for Part D enrollees were similar to the overall Medicare population: 83 percent in metropolitan areas, 10 percent in micropolitan areas, and 7 percent in rural areas. (About 1 percent of Medicare beneficiaries were excluded because of an unidentifiable core-based statistical area designation.)

Chart 10-16. Part D enrollment trends, 2007–2017

					Average annual growth rate		
	2007	2010	2014	2017	2007–2010	2010–2014	2014–2017
Part D enrollment (in millions)*							
Total	26.1	29.7	40.0	45.2	4.4%	7.7%	4.2%
Employer group waiver plans	2.0	2.6	7.0	7.2	9.2	27.4	1.1
By plan type							
PDP	18.3	18.9	25.1	27.0	1.1	7.3	2.5
MA–PD	7.8	10.6	14.9	18.3	10.9	8.9	7.0
By subsidy status							
LIS	10.4	11.3	12.8	13.7	2.7	3.1	2.4
Non-LIS	15.7	18.4	27.2	31.5	5.5	10.2	5.0
By race/ethnicity							
White, non-Hispanic	19.4	22.0	29.6	33.1	4.3	7.7	3.8
African American, non-Hispanic	2.9	3.3	4.4	4.9	4.1	7.4	3.7
Hispanic	2.5	3.0	3.9	4.3	5.8	6.7	4.0
Other	1.3	1.4	2.1	2.8	3.9	10.3	10.8
By age (years)**							
<65	5.5	6.3	7.8	8.1	4.7	5.5	1.2
65–69	5.4	6.6	9.5	11.2	6.5	9.9	5.4
70–79	8.8	9.9	13.9	16.4	3.8	8.9	5.9
80+	6.4	7.1	8.8	9.6	3.2	5.7	2.7
Part D enrollment (in percent)							
Total	100%	100%	100%	100%			
Employer group waiver plans	8	9	17	16			
By plan type							
PDP	70	64	63	60			
MA–PD	30	36	37	40			
By subsidy status							
LIS	40	38	32	30			
Non-LIS	60	62	68	70			
By race/ethnicity							
White, non-Hispanic	74	74	74	73			
African American, non-Hispanic	11	11	11	11			
Hispanic	10	10	10	10			
Other	5	5	5	6			
By age (years)**							
<65	21	21	19	18			
65–69	21	22	24	25			
70–79	34	33	35	36			
80+	25	24	22	21			

Note: PDP (prescription drug plan), MA–PD (Medicare Advantage–Prescription Drug [plan]), LIS (low-income [drug] subsidy). A beneficiary was classified as "LIS" if that individual received Part D's LIS at some point during the year. If a beneficiary was enrolled in both a PDP and an MA–PDs during the year, that individual was classified into the type of plan with the greater number of months of enrollment. Components may not sum to totals due to rounding.
*Figures include all beneficiaries with at least one month of enrollment.
**Age as of July of the respective year.

Source: MedPAC analysis of Medicare Part D denominator and common Medicare environment files from CMS.

(Chart continued next page)

Chart 10-16. Part D enrollment trends, 2007–2017 (continued)

- Part D enrollment grew faster between 2010 and 2014 (average annual growth rate (AAGR) of 7.7 percent) than between 2007 and 2010 (AAGR of 4.4 percent) or between 2014 and 2017 (AAGR of 4.2 percent). The faster enrollment growth between 2010 and 2014 largely reflects the growth in enrollment in Part D plans operated for employers and their retirees (employer group waiver plans, or EGWPs). Enrollment in EGWPs grew from 2.6 million to 7.0 million (AAGR of 27.4 percent) during this period.

- The number of enrollees receiving the LIS grew modestly between 2007 and 2017, with AAGR of between 2.4 percent and 3.1 percent. During the same period, the number of non-LIS enrollees grew faster than LIS enrollees, with AAGR of 10.2 percent between 2010 and 2014 and AAGR of 5 percent or greater before 2010 and after 2014. Faster enrollment growth among non-LIS enrollees is partly attributable to the recent growth in EGWPs that shifted beneficiaries into Part D plans from employer plans that had previously received Medicare's retiree drug subsidy (RDS) (see Chart 10-7 for information on the RDS).

- Between 2014 and 2017, the largest growth in enrollment was observed for beneficiaries ages 70 to 79 (5.9 percent annually, on average), followed by beneficiaries ages 65 to 69 (5.4 percent annually, on average), reversing the pattern observed before 2014, when the enrollment growth was largest among beneficiaries ages 65 to 69.

- While MA–PD enrollment growth decelerated in recent years from the nearly 11 percent AAGR observed between 2007 and 2010, enrollment in MA–PDs continued to exceed that of PDPs between 2014 and 2017 (AAGR of 7 percent and 2.5 percent, respectively).

Chart 10-17. Part D enrollment by region, 2017

PDP region	State(s)	Percent of Medicare enrollment		Percent of Part D enrollment			
				Plan type		Subsidy status	
		Part D	RDS	PDP	MA–PD	LIS	Non-LIS
1	ME, NH	70%	3%	75%	25%	33%	67%
2	CT, MA, RI, VT	77	3	69	31	35	65
3	NY	78	4	55	45	37	63
4	NJ	74	4	80	20	25	75
5	DE, DC, MD	64	3	85	15	32	68
6	PA, WV	76	3	57	43	28	72
7	VA	64	2	74	26	28	72
8	NC	74	4	60	40	30	70
9	SC	72	2	67	33	30	70
10	GA	73	2	54	46	34	66
11	FL	76	3	47	53	30	70
12	AL, TN	74	2	53	47	35	65
13	MI	79	3	71	29	25	75
14	OH	78	3	60	40	26	74
15	IN, KY	76	2	70	30	30	70
16	WI	72	2	58	42	24	76
17	IL	73	5	71	29	29	71
18	MO	76	2	62	38	27	73
19	AR	70	3	72	28	37	63
20	MS	72	1	78	22	44	56
21	LA	75	4	57	43	40	60
22	TX	72	2	60	40	33	67
23	OK	67	1	77	23	31	69
24	KS	71	1	81	19	23	77
25	IA, MN, MT, NE, ND, SD, WY	74	2	74	26	22	78
26	NM	72	1	55	45	39	61
27	CO	73	2	52	48	24	76
28	AZ	74	2	50	50	27	73
29	NV	70	3	51	49	26	74
30	OR, WA	69	6	52	48	28	72
31	ID, UT	70	2	55	45	22	78
32	CA	79	2	48	52	35	65
33	HI	71	2	38	62	27	73
34	AK	41	25	98	2	53	47
	Mean	74	3	60	40	30	70
	Minimum	41	1	38	2	22	47
	Maximum	79	25	98	62	53	78

Note: PDP (prescription drug plan), RDS (retiree drug subsidy), MA–PD (Medicare Advantage–Prescription Drug [plan]), LIS (low-income [drug] subsidy). Definition of regions is based on PDP regions used in Part D. If an employer agrees to provide primary drug coverage to its retirees with a benefit value that is equal to or greater than that of Part D, Medicare provides the employer with RDS (see Chart 10-7).

Source: MedPAC analysis of Part D enrollment data from CMS.

- Among Part D regions in 2017, all but one region (Region 34 (AK)) had over 60 percent of all Medicare beneficiaries enrolled in Part D. Beneficiaries were less likely to enroll in Part D in regions where employer-sponsored drug coverage continued to be available. For example, in Region 34, the share of Medicare beneficiaries enrolled in Part D was 41 percent, while the share of beneficiaries enrolled in employer-sponsored plans that received the RDS was 25 percent. In other regions (Region 5 and Region 7), many beneficiaries likely received their drug coverage through the Federal Employees Health Benefits Program, which does not receive the RDS.

(Chart continued next page)

Chart 10-17. Part D enrollment by region, 2017 (continued)

- In 2017, all regions except Region 8 and Region 34 experienced a decrease in the number of beneficiaries who received the RDS (data not shown). In some of the regions, the decreases in RDS recipients were accompanied by larger than average increases in Part D enrollment (e.g., Region 2, Region 17, and Region 22). The continued trend is likely motivated by changes made by the Patient Protection and Affordable Care Act of 2010 that increased the generosity of Part D coverage and altered the tax treatment of drug expenses covered by the RDS.

- Wide variation was seen in the shares of Part D beneficiaries who enrolled in PDPs and MA–PDs across PDP regions. The pattern of MA–PD enrollment is generally consistent with availability of and enrollment in Medicare Advantage plans.

- The share of Part D enrollees receiving the LIS ranged from 22 percent in Region 25 (IA, MN, MT, NE, ND, SD, and WY) and Region 31 (ID and UT) to 53 percent in Region 34 (AK). In all but 2 of the 34 PDP regions, LIS enrollees accounted for 40 percent or less of total Part D enrollment.

Chart 10-18. Components of Part D spending growth

	2009	2016	Average annual growth 2009–2016
Total gross spending (in billions)	**$73.7**	**$146.2**	**10.3%**
High-cost beneficiaries	29.2	85.1	16.5%
Lower cost beneficiaries	44.6	61.1	4.6%
Number of beneficiaries using a Part D drug (in millions)	**26.5**	**40.5**	**6.2%**
High-cost beneficiaries	2.4	3.6	6.2%
Lower cost beneficiaries	24.1	36.9	6.2%
Amount per beneficiary who used Part D drugs			
Gross drug spending per year	$2,781	$3,606	3.8%
Average price per 30-day prescription	$55	$66	2.5%
Number of 30-day prescriptions	50.4	55.0	1.2%
Amount per high-cost beneficiary who used Part D drugs			
Gross drug spending per year	$12,294	$23,478	9.7%
Average price per 30-day prescription	$110	$207	9.4%
Number of 30-day prescriptions	111.4	113.3	0.2%
Amount per lower cost beneficiary who used Part D drugs			
Gross drug spending per year	$1,846	$1,655	–1.6%
Average price per 30-day prescription	$42	$34	–3.0%
Number of 30-day prescriptions	44.5	49.3	1.5%

Note: "High-cost beneficiaries" refers to individuals who incurred spending high enough to reach the catastrophic phase of the benefit. "Gross spending" reflects payments to pharmacies from all payers, including beneficiary cost sharing, but does not include rebates and discounts from pharmacies and manufacturers that are not reflected in prices at the pharmacies. Changes in the average price per prescription reflect both price inflation and changes in the mix of drugs used. Components may not sum to totals due to rounding.

Source: MedPAC analysis of Part D prescription drug event data and denominator files from CMS.

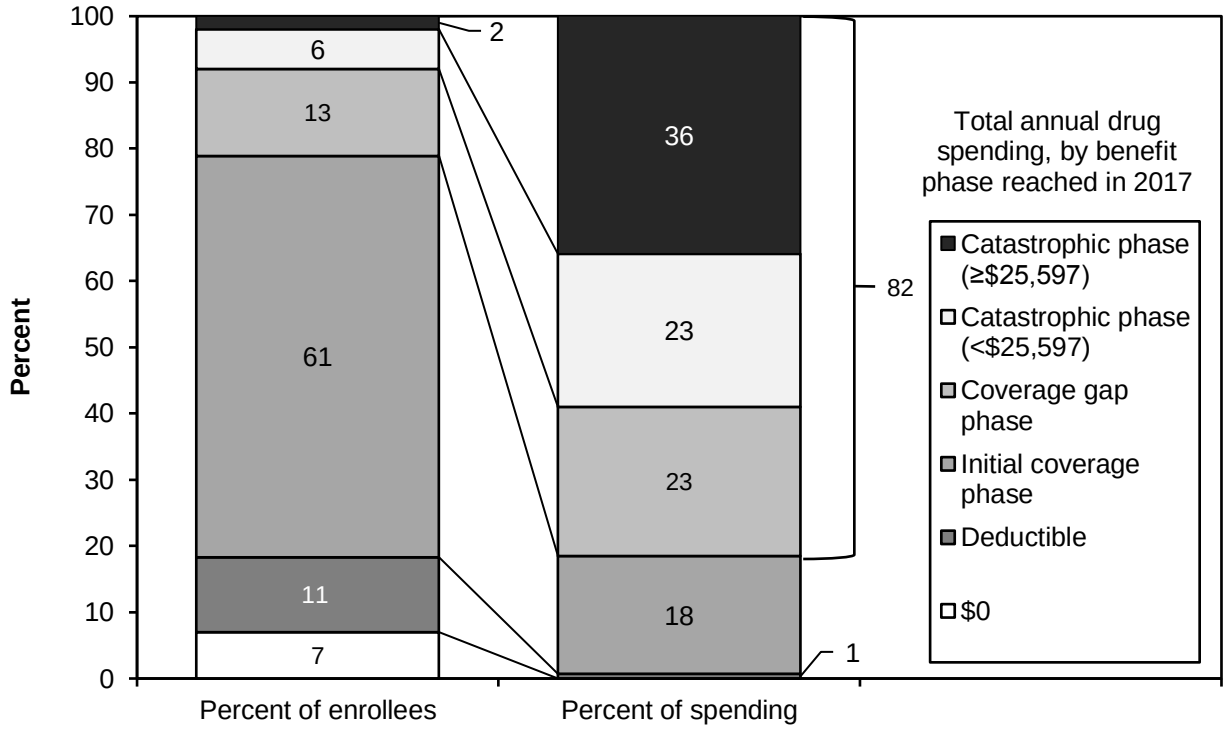
- Between 2009 and 2016, gross spending on drugs under the Part D program grew by an annual average rate of 10.3 percent. The annual growth in spending was considerably higher (16.5 percent) among high-cost beneficiaries (individuals who incurred spending high enough to reach the catastrophic phase of the benefit) compared with 4.6 percent for lower cost beneficiaries.

- During the 2009 through 2016 period, the number of beneficiaries who used Part D drugs grew by an annual average rate of 6.2 percent. The same rate of growth was observed among high-cost beneficiaries and lower cost beneficiaries.

- The average price per 30-day prescription covered under Part D rose from $55 in 2009 to $66 in 2016. Overall, growth in price per prescription accounted for nearly two-thirds (2.5 percentage points) of the 3.8 percent average annual growth in spending per beneficiary among beneficiaries who used Part D drugs.

- The average annual growth rate in overall spending per beneficiary reflects two distinct patterns of price and spending growth, one for high-cost beneficiaries and another for lower cost beneficiaries. Among high-cost beneficiaries, annual growth in prices (9.4 percent) accounted for nearly all of the spending growth (9.7 percent) during this period. In contrast, among lower cost beneficiaries, the average annual decrease in prices (–3.0 percent) resulted in an overall decrease in spending (–1.6 percent annually), despite an increase in the number of prescriptions filled during the same period.

Chart 10-19. The majority of Part D spending was incurred by just one-fifth of all Part D enrollees, 2017



Note: "Spending" (gross) reflects payments from all payers, including beneficiaries (cost sharing), but does not include rebates and discounts from pharmacies and manufacturers that are not reflected in prices at the pharmacies. In 2017, the defined standard basic benefit included a $400 deductible and 25 percent coinsurance until the enrollee reached $3,700 in total covered drug spending. An individual with an average mix of drugs who did not receive Part D's low-income subsidy and who had no other supplemental coverage would have reached the catastrophic phase of the benefit at $8,071.16 in total drug spending. In 2017, among those who reached the catastrophic phase of the benefit, an enrollee at the 75th percentile of the distribution had drug spending totaling $25,597. Components may not sum to totals due to rounding.

Source: MedPAC analysis of Medicare Part D prescription drug event data from CMS.

- Medicare Part D spending is concentrated in a subset of beneficiaries. In 2017, about 21 percent of Part D enrollees had annual spending exceeding the initial coverage limit (typically set at $3,700 in gross drug spending), at which point enrollees were responsible for a higher proportion of the cost of the drugs until they reached the catastrophic phase of the benefit (at about $8,071 in gross drug spending under the defined standard benefit for beneficiaries not receiving Part D's low-income subsidy (LIS)). These beneficiaries accounted for 82 percent of total Part D spending.

- The costliest 8 percent of beneficiaries, those with drug spending above the catastrophic threshold, accounted for about 60 percent of total Part D spending. Seventy-one percent of beneficiaries with the highest spending received the LIS (data not shown; see Chart 10-20). Spending on prescription drugs has become more concentrated over time. Before 2011, the costliest 8 percent of beneficiaries accounted for 40 percent or less of total Part D spending (data not shown). In comparison, for Medicare Part A and Part B spending, Medicare fee-for-service spending accounted for by the costliest 5 percent of beneficiaries has been stable at about 40 percent for many years (data not shown; see Chart 1-11 for 2016 figures).

- In 2017, among Part D enrollees who reached the catastrophic phase of the benefit, those enrollees with annual spending at or above $25,597 (2 percent of all Part D enrollees) accounted for 36 percent of total Part D spending.

Chart 10-20. Characteristics of Part D enrollees, by benefit phase reached, 2017

	Annual drug spending		
	Below initial coverage limit	Coverage-gap phase	Catastrophic phase
Sex			
Male	43%	42%	42%
Female	57	58	58
Race/ethnicity			
White, non-Hispanic	74	76	66
African American, non-Hispanic	10	10	16
Hispanic	10	9	12
Other	6	5	7
Age (years)			
<65	16	17	39
65–69	26	20	18
70–74	22	21	16
75–80	15	17	12
80+	21	25	15
LIS status*			
LIS	26	34	71
Non-LIS	74	66	29
Plan type**			
PDP	58	64	68
MA–PD	42	36	32

Note: LIS (low-income [drug] subsidy), PDP (prescription drug plan), MA–PD (Medicare Advantage–Prescription Drug [plan]). "Spending" (gross) reflects payments from all payers, including beneficiaries (cost sharing), but does not include rebates and discounts from pharmacies and manufacturers that are not reflected in prices at the pharmacies. In 2017, the defined standard basic benefit included a $400 deductible and 25 percent coinsurance until the enrollee reached $3,700 in total covered drug spending. An individual with an average mix of drugs who did not receive Part D's low-income subsidy and who had no other supplemental coverage would have reached the catastrophic phase of the benefit at $8,071.16 in total drug spending. A small number of beneficiaries were excluded from the analysis because of missing data. Components may not sum to 100 due to rounding.
*A beneficiary was assigned LIS status if that individual received Part D's LIS at some point during the year.
**If a beneficiary was enrolled in both a PDP and an MA–PD during the year, that individual was classified in the type of plan with the greater number of months of enrollment.

Source: MedPAC analysis of Medicare Part D prescription drug event data and Part D denominator file from CMS.

- In 2017, Part D enrollees who reached the catastrophic phase of the benefit were more likely to be minority, disabled and under age 65, and receiving the LIS compared with Part D enrollees with annual spending below the catastrophic threshold.

- While LIS enrollees are more likely to reach the catastrophic phase of the benefit, their share has been declining, from more than 80 percent in 2010 and earlier years (data not shown) to 71 percent in 2017. This decline reflects more rapid growth in enrollment of individuals who do not receive the LIS as well as the growth in average prices of drugs taken by those individuals.

- Part D enrollees who reached the catastrophic phase of the benefit were more likely to be enrolled in stand-alone PDPs (68 percent) compared with enrollees whose spending was below the initial coverage limit (58 percent) or enrollees in the coverage gap who did not reach the catastrophic threshold (64 percent). Some of this difference likely reflects the facts that LIS enrollees are more costly on average and are more likely to be in PDPs.

Chart 10-21. Part D spending and use per enrollee, 2017

	Part D	Plan type		LIS status	
		PDP	MA–PD	LIS	Non-LIS
Total gross spending (billions)*	$154.9	$101.6	$53.3	$76.2	$78.7
Total number of prescriptions (millions)	2,329	1,406	922	851	1,478
Average spending per prescription	$67	$72	$58	$90	$53
Per enrollee per month					
Total spending	$302	$335	$254	$502	$218
OOP spending	33	35	29	6	44
Manufacturer gap discount	12	13	9	N/A	16
Plan liability	197	216	169	341	136
Low-income cost-sharing subsidy	46	52	37	155	N/A
Other**	15	18	10	<1	21
Number of prescriptions	4.5	4.6	4.4	5.6	4.1

Note: PDP (prescription drug plan), MA–PD (Medicare Advantage–Prescription Drug [plan]), LIS (low-income [drug] subsidy), OOP (out-of-pocket), N/A (not applicable). "Total gross spending" reflects payments from all payers, including beneficiaries (cost sharing), but does not include rebates and discounts from pharmacies and manufacturers that are not reflected in prices at the pharmacies. Part D prescription drug event (PDE) records are classified into plan types based on the contract identification on each record. For purposes of classifying the PDE records by LIS status, monthly LIS eligibility information in Part D's denominator file was used. Estimates are sensitive to the method used to classify PDE records to each plan type and LIS status. "Plan liability" includes plan payments for drugs covered by both basic and supplemental (enhanced) benefits. In addition to the major categories shown in the chart, total spending includes amounts paid by other relatively minor payers such as group health plans, workers' compensation, and charities. "Number of prescriptions" is standardized to a 30-day supply.
*"Total gross spending" includes about $5.9 billion in manufacturer discounts for brand-name drugs filled by non-LIS enrollees during the coverage gap.
**"Other" amount includes payments by patient assistance organizations and third-party payers other than Part D plans that reduce the patient cost-sharing liability.

Source: MedPAC analysis of Medicare Part D PDE data and Part D denominator file from CMS.

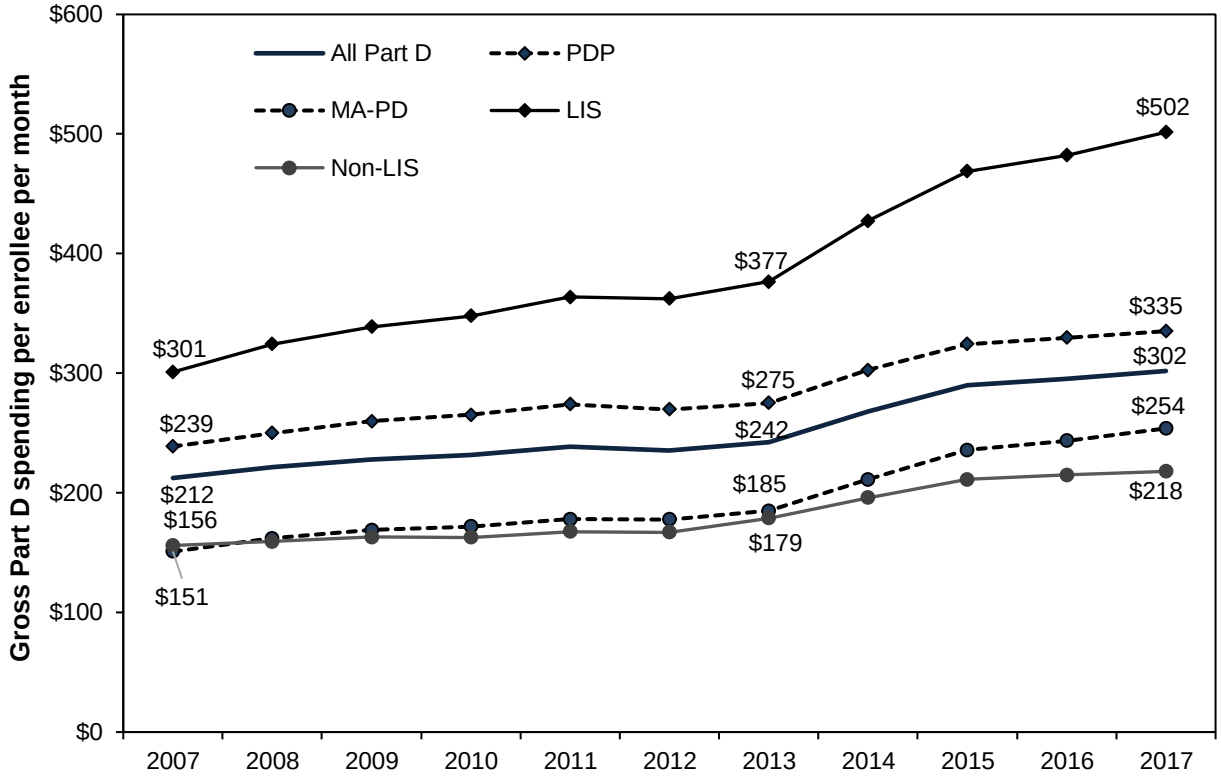
- In 2017, gross spending on drugs for the Part D program totaled $154.9 billion, with nearly two-thirds ($101.6 billion) accounted for by Medicare beneficiaries enrolled in stand-alone PDPs. Part D enrollees receiving the LIS accounted for $76.2 billion (49 percent) of the total. Manufacturer discounts for brand-name drugs filled by non-LIS enrollees while they were in the coverage gap accounted for 3.8 percent of the total, or 7.5 percent of the gross spending by non-LIS enrollees (down from 4.2 percent and 8.3 percent, respectively, in 2015) (data not shown).

- The number of prescriptions filled by Part D enrollees totaled over 2.3 billion, with about 60 percent (about 1.4 billion) accounted for by PDP enrollees. The 30 percent of enrollees who received the LIS accounted for about 37 percent (851 million) of the total number of prescriptions filled.

- In 2017, Part D enrollees filled 4.5 prescriptions at $302 per month on average, an increase from $296 per month (for 4.5 prescriptions) in 2016 (2016 data not shown). The average monthly plan liability for PDP enrollees ($216) was considerably higher than that of MA–PD enrollees ($169), while the difference in average monthly OOP spending was smaller between the two types of plans ($35 vs. $29, respectively). The average monthly low-income cost-sharing subsidy was much higher for PDP enrollees ($52) compared with MA–PD enrollees ($37).

- Average monthly spending per LIS enrollee ($502) was more than double that of a non-LIS enrollee ($218), while the average number of prescriptions filled per month by an LIS enrollee was 5.6 compared with 4.1 for a non-LIS enrollee. LIS enrollees had much lower monthly OOP spending, on average, than non-LIS enrollees ($6 vs. $44, respectively). Part D's LIS pays for most of the cost sharing for LIS enrollees, averaging $155 per month in 2017.

Chart 10-22. Trends in Part D spending and use per enrollee per month, 2007–2017



Note: PDP (prescription drug plan), LIS (low-income [drug] subsidy), MA–PD (Medicare Advantage–Prescription Drug [plan]). "Spending" (gross) reflects payments from all payers, including beneficiaries (cost sharing), but does not include rebates and discounts from pharmacies and manufacturers that are not reflected in prices at the pharmacies. Part D prescription drug event (PDE) records are classified into plan types based on the contract identification on each record. For purposes of classifying the PDE records by LIS status, monthly LIS eligibility information in Part D's denominator file was used. Figures are sensitive to the method used to classify PDE records to each plan type and LIS status.

Source: MedPAC analysis of Medicare Part D PDE data and Part D denominator file from CMS.

- Between 2007 and 2017, average per capita spending per month for Part D–covered drugs grew from $212 to $302, an average growth of 3.6 percent annually, or about 42 percent cumulatively. The rate of growth in average per capita spending more than doubled after 2013, in part reflecting the introduction of new hepatitis C treatments in 2014 and subsequent years.

- Between 2007 and 2017, monthly per capita spending for LIS enrollees grew faster than that for non-LIS enrollees, increasing from $301 to $502 (a cumulative growth of nearly 67 percent) compared with an increase from $156 to $218 for non-LIS enrollees (a cumulative growth of just under 40 percent). The number of prescriptions filled by both LIS and non-LIS enrollees grew by about 2 percent annually during this period (data not shown).

- The growth in monthly per capita drug spending among MA−PD enrollees exceeded that of PDP enrollees during the 2007 to 2017 period (annual average growth of 5.3 percent and 3.4 percent, respectively). However, the growth was comparable in terms of the dollar increase (cumulative increases of $103 and $96, respectively), and the average per capita spending for MA−PD enrollees continued to be lower than that of PDP enrollees by about $80 per month.

Chart 10-23. Top 15 therapeutic classes of drugs covered under Part D, by spending and volume, 2017

Top 15 therapeutic classes by spending	Dollars		Top 15 therapeutic classes by volume	Prescriptions	
	Billions	Percent		Millions	Percent
Diabetic therapy	$23.3	15.0%	Antihyperlipidemics	241.2	10.4%
Asthma/COPD therapy agents	11.0	7.1	Antihypertensive therapy agents	240.2	10.3
Antivirals	10.4	6.7	Diabetic therapy	155.4	6.7
Antineoplastic enzyme inhibitors	8.1	5.2	Beta-adrenergic blockers	144.2	6.2
Anticoagulants	6.8	4.4	Antidepressants	142.6	6.1
Analgesics (anti-inflammatory/ antipyretic, non-narcotic)	6.6	4.3	Peptic ulcer therapy	118.4	5.1
Antihyperlipidemics	5.5	3.5	Diuretics	111.0	4.8
Antipsychotics	5.5	3.5	Calcium channel blockers	103.7	4.5
Anticonvulsants	5.4	3.5	Thyroid therapy	92.0	3.9
Antihypertensive therapy agents	5.0	3.2	Anticonvulsants	90.8	3.9
Antineoplastics (immunomodulators)	4.0	2.6	Analgesics (narcotic)	77.6	3.3
Analgesics (narcotic)	3.4	2.2	Asthma/COPD therapy agents	64.9	2.8
Peptic ulcer therapy	3.0	1.9	Antibacterial agents	57.6	2.5
Calcium and bone metabolism regulators	2.7	1.7	Prostatic hypertrophy agents	44.9	1.9
Multiple sclerosis agents	2.6	1.7	Analgesics (anti-inflammatory/ antipyretic, non-narcotic)	42.3	1.8
Subtotal, top 15 classes	103.3	66.7	Subtotal, top 15 classes	1,726.9	74.2
Total, all classes	154.9	100.0	Total, all classes	2,328.5	100.0

Note: COPD (chronic obstructive pulmonary disease). "Spending" (gross) reflects payments from all payers, including beneficiaries (cost sharing), but does not include rebates and discounts from pharmacies and manufacturers that are not reflected in prices at the pharmacies. "Volume" is the number of prescriptions, standardized to a 30-day supply. Therapeutic classification is based on the First DataBank Enhanced Therapeutic Classification System 1.0. Components may not sum to totals due to rounding.

Source: MedPAC analysis of Medicare Part D prescription drug event data from CMS.

- In 2017, the top 15 therapeutic classes by spending accounted for about two-thirds of the $154.9 billion spent on prescription drugs covered by Part D plans. The top 15 therapeutic classes by volume accounted for nearly three-quarters of the roughly 2.3 billion prescriptions dispensed in 2017.
- While many of the same therapeutic classes on the top-15 list appear year after year, the ranking has changed from time to time. For example, market entries of new hepatitis C therapies more than tripled Part D spending on antivirals between 2013 and 2015 (data not shown). In 2017, antivirals accounted for $10.4 billion, down from $11.7 billion in 2016 (2016 data not shown). The growth in spending for drugs to treat cancer resulted in two classes of antineoplastic therapies (enzyme inhibitors and immunomodulators) appearing on the top-15 list for the first time in 2015, compared with just one class between 2012 and 2014 and none before 2012.

(Chart continued next page)

Chart 10-23. Top 15 therapeutic classes of drugs covered under Part D, by spending and volume, 2017 (continued)

- Spending on drugs to treat diabetes has grown at a double-digit rate since 2007. In 2017, spending on diabetic therapy totaled $23.3 billion, an increase of about 15 percent from $20.3 billion in 2016 (2016 data not shown). The number of prescriptions filled for diabetic therapy totaled 155.4 million, an increase of 6.7 percent from 145.7 million in 2016.

- Eight therapeutic classes are among the top 15 in both spending and volume. Diabetic therapy dominates the list by spending, accounting for more than 22 percent of spending for the top 15 therapeutic classes, followed by asthma/COPD therapy agents. Cardiovascular agents (antihyperlipidemics, antihypertensive therapy agents, beta-adrenergic blockers, calcium channel blockers, and diuretics) dominate the list by volume, accounting for about 50 percent of the prescriptions in the top 15 therapeutic classes.

Chart 10-24. Part D patterns of prescribing by provider type, 2017

	Part D	Provider type: Primary care*	Provider type: Specialty/ others	Provider type: NP/PA/ CNS
Number of individual prescribers (thousands)	1,163	254	660	249
Share of all individual prescribers		22%	57%	21%
Average beneficiary count	158	254	125	146
Average per beneficiary				
Gross spending	$753	$912	$745	$617
Number of prescriptions	6.0	11.2	4.2	5.4
Top 1 percent of prescribers based on number of prescriptions filled per beneficiary				
Number of individual prescribers	10,311	7,228	1,921	1,162
Share of top 1 percent of prescribers		70%	19%	11%
Total gross spending (billions)	$9.9	$7.7	$1.5	$0.7
Share of provider type's total gross spending	6%	13%	2%	3%
Total number of prescriptions (millions)	142	118	17	8
Share of provider type's total prescriptions filled	10%	14%	4%	3%
Average per beneficiary				
Gross spending	$3,812	$3,243	$5,371	$4,773
Number of prescriptions	42	42	42	41

Note: NP (nurse practitioner), PA (physician assistant), CNS (clinical nurse specialist). "Gross spending" reflects payments from all payers, including beneficiaries (cost sharing), but does not include rebates and discounts from pharmacies and manufacturers that are not reflected in prices at the pharmacies. Numbers may not sum to totals due to rounding. "Number of prescriptions" is a count of prescription drug events and is not adjusted for the size (number of days' supply) of the prescriptions. As such, these figures are not comparable with the 2017 prescription counts shown in Chart 10-18 and Chart 10-21 through Chart 10-23.
*The definition of "primary care" used here includes practitioners who have a primary Medicare specialty designation of family practice, internal medicine, pediatrics, or geriatrics.

Source: MedPAC analysis of Medicare Part D prescriber-level public use file from CMS.

- In 2017, nearly 1.2 million individual providers wrote prescriptions for Medicare beneficiaries that were filled under Part D. Of those, about 22 percent were primary care providers, 57 percent were specialty or other types of providers, and 21 percent were NPs, PAs, or CNSs in primary and specialty care. While historically, NPs and PAs have been concentrated in primary care, more recent patterns suggest that they are increasingly practicing in specialty fields.

- The average count of Medicare-only beneficiaries was higher among primary care providers compared with specialty and other types of providers and with NPs, PAs, and CNSs—254 beneficiaries versus 125 beneficiaries and 146 beneficiaries, respectively.

(Chart continued next page)

Chart 10-24. Part D patterns of prescribing by provider type, 2017 (continued)

- On a per beneficiary basis, average gross spending for Part D prescriptions was much higher for prescriptions written by primary care providers ($912) compared with the average for specialty and other providers ($745) and for NPs, PAs, and CNSs ($617). Primary care providers also wrote more prescriptions per beneficiary, on average: 11.2 compared with 4.2 for specialty and other providers and 5.4 for NPs, PAs, and CNSs.

- More than 10,300 prescribers were among the top 1 percent of all prescribers, as ranked by the average number of Part D prescriptions filled per beneficiary in 2017. Of those prescribers, 70 percent were primary care providers, 19 percent were specialty and other providers, and 11 percent were NPs, PAs, and CNSs.

- The top 1 percent of prescribers accounted for 6 percent of total gross spending and 10 percent of all prescriptions filled. Among primary care prescribers who were within the top 1 percent, results were more concentrated: They accounted for 13 percent of gross prescription spending and 14 percent of all prescriptions written by primary care providers.

- Among the prescriptions that were written by prescribers in the top 1 percent of all prescribers in 2017, per beneficiary Part D spending averaged $3,812 for 42 prescriptions filled.

Chart 10-25. Part D patterns of prescribing for selected specialties, 2017

	Number of individual Part D prescribers (thousands)	Share of all Part D prescribers (percent)	Average per beneficiary	
			Gross spending (in dollars)	Number of prescriptions
All Part D	1,162.9	100%	$753	6.0
All specialty/others	659.6	57	745	4.2
Selected specialties:				
Psychiatry	25.4	4	1,260	13.3
Cardiology	20.3	3	799	8.3
Ophthalmology	19.8	3	454	4.1
Psychiatry & neurology	14.2	2	1,232	11.3
Neurology	13.9	2	3,050	7.4
Gastroenterology	13.6	2	1,669	3.6
Urology	10.7	2	423	3.9
Pulmonary disease	9.5	1	2,977	6.8
Nephrology	8.6	1	1,793	8.5
Hematology & oncology	8.5	1	8,081	6.1
Endocrinology	5.9	1	2,421	8.1
Infectious disease	5.4	1	6,635	8.9
Rheumatology	4.7	1	3,374	7.9
Medical oncology	3.2	<0.5	7,422	5.7

Note: "Gross spending" reflects payments from all payers, including beneficiaries (cost sharing), but does not include rebates and discounts from pharmacies and manufacturers that are not reflected in prices at the pharmacies. "Number of prescriptions" is a count of prescription drug events and is not adjusted for the size (number of days' supply) of the prescriptions. As such, they are not comparable with the 2017 prescription counts shown in Chart 10-18 and Chart 10-21 through Chart 10-23.

Source: MedPAC analysis of Medicare Part D prescriber-level public use file from CMS.

- Of specialty care prescribers, psychiatrists were among the most numerous, making up 4 percent of all Part D prescribers in 2017. Cardiologists, ophthalmologists, psychiatrist/neurologists, neurologists, gastroenterologists, and urologists each made up another 2 percent to 3 percent of Part D prescribers.

- Psychiatrists wrote an average of 13.3 prescriptions per beneficiary, with an average of $1,260 in gross spending per patient. Those are higher than the overall Part D averages of 6.0 prescriptions and $753 in average gross spending per beneficiary. Other specialties with comparatively high average gross spending per beneficiary include psychiatry/neurology, neurology, gastroenterology, pulmonary disease, nephrology, hematology/oncology, endocrinology, infectious disease, rheumatology, and medical oncology.

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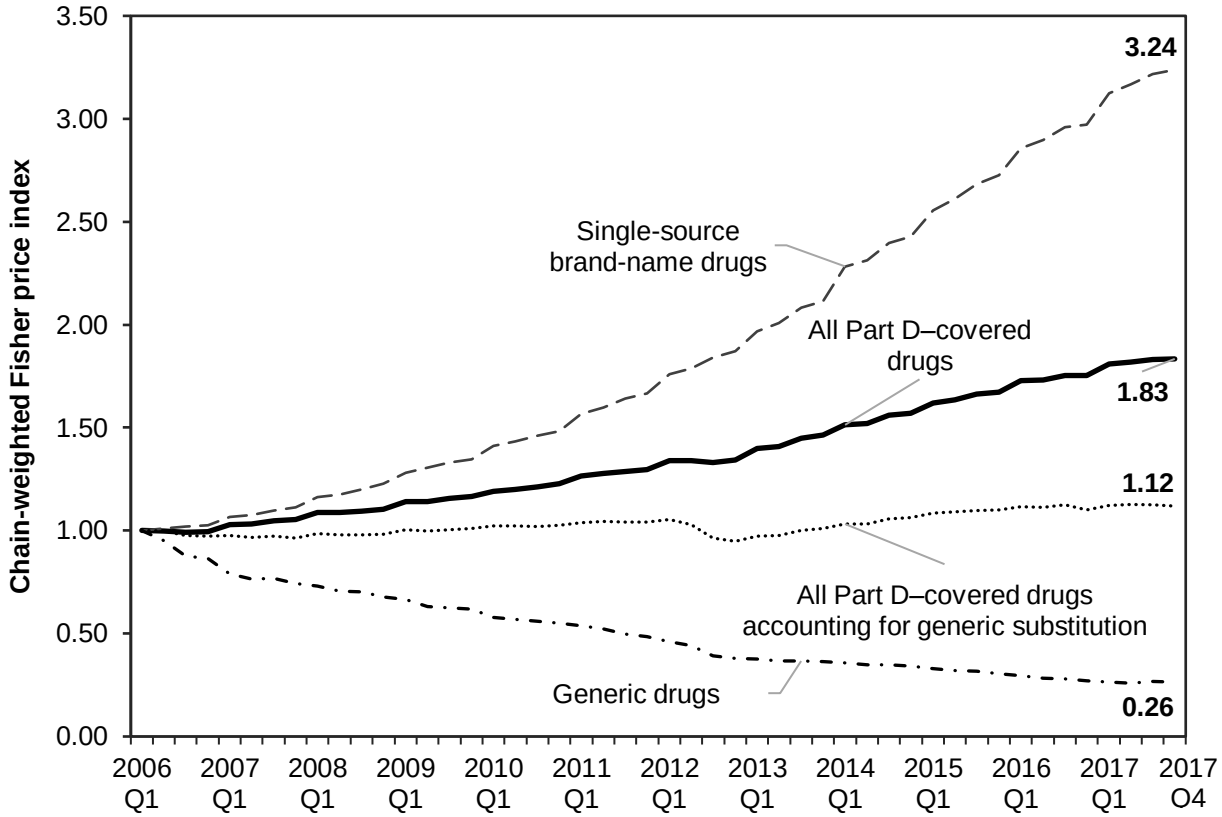
Chart 10-25. Part D patterns of prescribing for selected specialties, 2017 (continued)

- Other specialties such as ophthalmology and urology had lower average gross spending per beneficiary. Cardiologists had average gross spending per beneficiary slightly higher than that of all Part D specialty prescribers ($799 vs. $753, respectively), but wrote an average of 8.3 prescriptions per beneficiary—considerably more than the average of 4.2 per beneficiary for all Part D specialty prescribers.

Chart 10-26. Price growth for Part D–covered drugs, 2006–2017



Note: Part D indexes reflect total amounts paid to pharmacies and do not reflect retrospective rebates or discounts from manufacturers and pharmacies. These measures of price growth reflect growth in the price of individual products, but do not reflect changes in price due to the introduction of new products or to changes in the mix of products used.

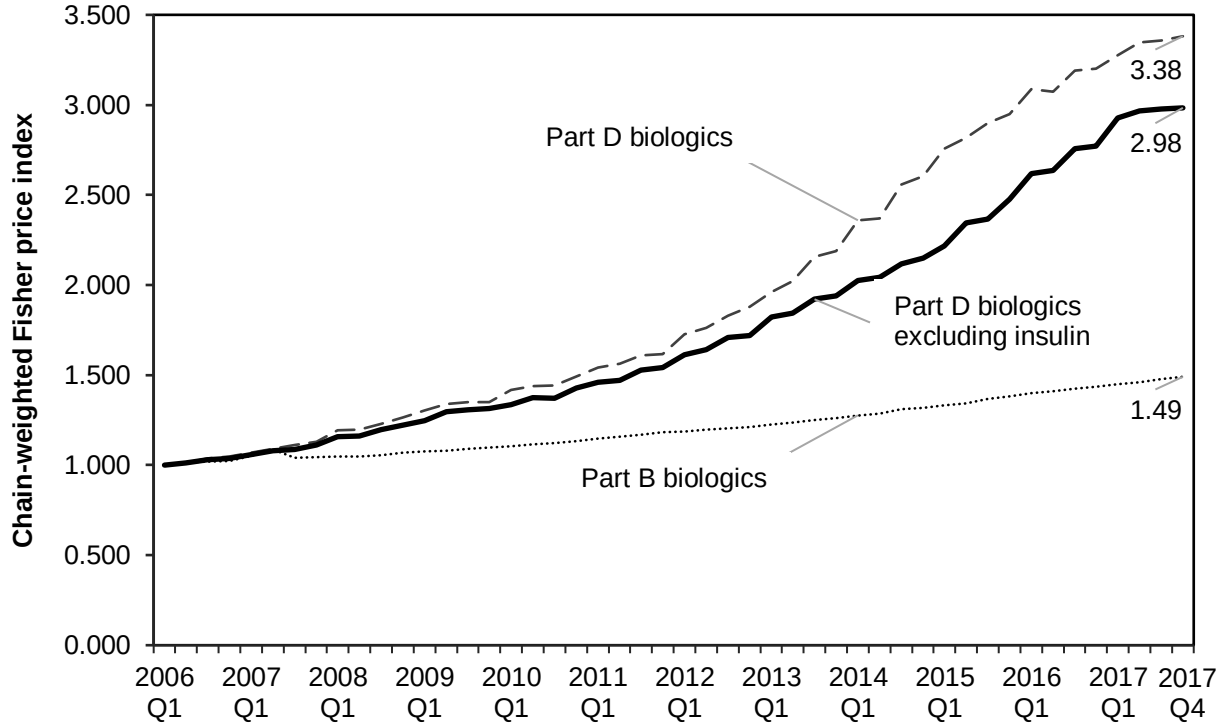
Source: Acumen LLC analysis for MedPAC.

- Measured by individual national drug codes, prices of drugs and biologics covered under Part D rose 83 percent cumulatively between 2006 and 2017 (an index of 1.83). (Prices reflect total amounts paid to pharmacies and do not reflect retrospective rebates or discounts from manufacturers and pharmacies.)

- As measured by a price index that takes generic substitution into account, Part D prices increased by just 12 percent cumulatively (an index of 1.12) over the 11-year period. Before 2013, increased generic use kept overall prices stable by offsetting increases in prices of brand-name drugs. From 2013 to 2015, however, the introduction of new generics slowed, and prices for brand-name drugs grew more rapidly—as reflected by an uptick in the price index.

- Overall, between 2006 and 2017, prices of generic drugs covered under Part D decreased to 26 percent of the average price observed at the beginning of 2006. In comparison, prices of single-source, brand-name drugs (drugs with no generic substitutes) grew by a cumulative 224 percent (an index of 3.24) during the same period.

Chart 10-27. Comparison of price growth for Part B and Part D biologics, 2006–2017



Note: Part D indexes reflect total amounts paid to pharmacies and do not reflect retrospective rebates or discounts from manufacturers and pharmacies. The Part B index reflects growth in the average sales price of Part B–covered biologics over time, measured for individual biologics at the Healthcare Common Procedure Coding System billing code level. These measures of price growth reflect growth in the price of individual products but do not reflect changes in price due to the introduction of new products or the changes in the mix of products used. The Part B price index for biologics in this chart and in Chart 10-6 are different due to the different periods of analysis.

Source: Acumen LLC analysis for MedPAC.

- Measured by the change in the average sales price of individual Part B–covered biologics, the prices of Part B–covered biologics rose by an average of 49 percent cumulatively between 2006 and 2017 (an index of 1.49). Measured by individual national drug codes, prices of biologics covered under Part D rose 238 percent cumulatively during the same period (an index of 3.38) (prices reflect total amounts paid to pharmacies and do not reflect retrospective rebates or discounts from manufacturers and pharmacies).

- Prices of noninsulin biologics covered under Part D grew less rapidly (by an average of 198 percent cumulatively, an index of 2.98) compared with the growth in prices of all Part D biologics during the same period.

- These measures of price growth reflect growth in price at the individual product level and do not reflect changes in price that occur as a result of shifts in the mix of biologics used or the introduction of new, higher priced biologics.

- Currently, biologics that may be covered under either Part B or Part D are limited to a subset of drugs within therapeutic classes such as therapies to treat inflammatory conditions (e.g., rheumatoid arthritis) and certain types of cancer.

SECTION 11

Other services

Dialysis
Hospice
Clinical laboratory

Chart 11-1. Number of dialysis facilities is growing, and most facilities are for profit and freestanding

	2017	Average annual percent change 2012–2017	Average annual percent change 2016–2017
Total number of:			
Dialysis facilities	7,014	4%	4%
Hemodialysis stations	120,928	3	3
Mean number of hemodialysis stations per facility	17	–0.6	–0.8
	Share of total facilities		
Hospital based	6%	–3	–2
Freestanding	94	4	4
Urban	82	4	5
Rural, micropolitan	11	2	1
Rural, adjacent to urban	4	2	2
Rural, not adjacent to urban	2	2	0
Frontier	0.5	3	3
For profit	88	5	5
Nonprofit	12	–1	–2

Note: "Nonprofit" includes facilities designated as either nonprofit or government. "Average annual percent change" is based on comparing 2012, 2016, and 2017 end-of-year files. Components may not sum to totals due to rounding.

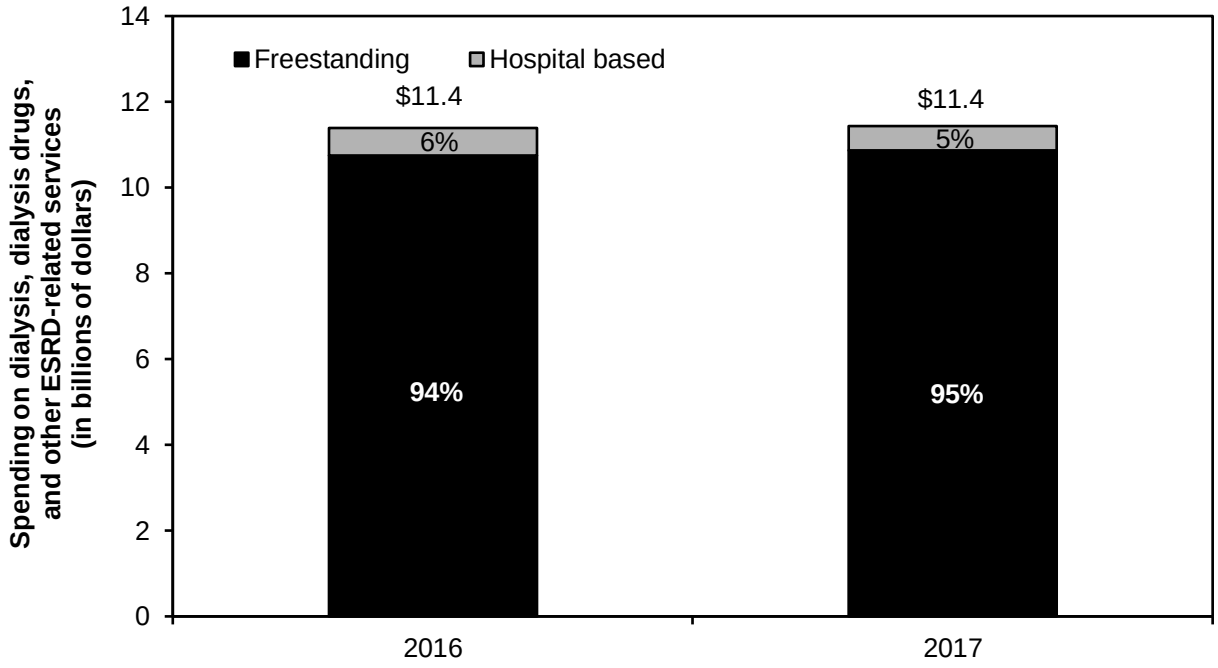
Source: Compiled by MedPAC from the 2012, 2016, and 2017 CMS Dialysis Compare end-of-year files. **THIS TABLE COULD NOT BE UPDATED TO REFLECT DIALYSIS FACILITIES THAT WERE CERTIFIED IN CALENDAR YEAR 2018 BECAUSE DATA FROM CMS WERE NOT AVAILABLE.**

- Between 2012 and 2017, the number of facilities has increased, on average, 4 percent per year. The average size of a facility has remained relatively constant, averaging about 17 dialysis treatment stations per facility (17.7 stations in 2012, 17.4 stations in 2016, and 17.2 stations in 2017).

- Since 2012, facilities' capacity to provide care—as measured by hemodialysis treatment stations—grew 3 percent annually. Capacity at urban facilities grew by 4 percent per year, while capacity at rural facilities grew at a rate of 2 percent per year (data not shown).

- Since 2012, the number of freestanding and for-profit facilities increased, while hospital-based and nonprofit facilities decreased. Freestanding facilities increased from 91 percent to 94 percent of all facilities, and for-profit facilities increased from 85 percent to 88 percent of all facilities.

Chart 11-2. Medicare spending for outpatient dialysis services furnished by freestanding and hospital-based dialysis facilities, 2016 and 2017



Note: ESRD (end-stage renal disease).

Source: Compiled by MedPAC from the 2016 and 2017 institutional outpatient files from CMS.

- In 2017, total spending for dialysis, dialysis drugs, and ESRD-related clinical laboratory tests was $11.4 billion. Medicare paid all facilities under a modernized prospective payment system that includes in the payment bundle certain dialysis drugs and ESRD-related clinical laboratory tests that were separately paid before 2011.
- Between 2016 and 2017, total ESRD expenditures increased by 0.4 percent.
- Freestanding dialysis facilities treated most dialysis beneficiaries and accounted for 95 percent of expenditures in 2017.

Chart 11-3. The ESRD population is growing, and most ESRD patients undergo dialysis

	2006		2012		2016	
	Patients (thousands)	Percent	Patients (thousands)	Percent	Patients (thousands)	Percent
Total	506.8	100%	634.7	100%	726.3	100%
Dialysis	356.2	70	444.3	70	511.3	70
In-center hemodialysis	323.6	64	395.1	62	449.0	62
Home hemodialysis*	2.7	0.5	7.7	1	9.0	1
Peritoneal dialysis*	28.3	6	39.8	6	51.1	7
Unknown	1.5	0.3	1.7	0.3	2.3	0.3
Functioning graft and kidney transplants	150.6	30	190.5	30	215.1	30

Note: ESRD (end-stage renal disease). Totals may not equal sum of components due to rounding. Data include both Medicare and non-Medicare patients.
*Home dialysis methods.

Source: Compiled by MedPAC from the United States Renal Data System.

- Persons with ESRD require either dialysis or a kidney transplant to maintain life. The total number of ESRD patients increased by 4 percent annually between 2006 and 2016.
- In hemodialysis, a patient's blood flows through a machine with a special filter that removes wastes and extra fluids. In peritoneal dialysis, the patient's blood is cleaned by using the lining of his or her abdomen as a filter. Peritoneal dialysis is the most common form of home dialysis.
- Most ESRD patients undergo hemodialysis administered in a dialysis facility three times a week. Between 2006 and 2016, the total number of in-center hemodialysis patients grew by 3 percent annually, while the total number of peritoneal dialysis patients increased by about 6 percent annually. Although a smaller proportion of all dialysis patients undergo home hemodialysis, the number of these patients grew 13 percent per year during this period.
- Functioning graft patients are patients who have had a successful kidney transplant. Patients undergoing kidney transplant may receive either a living kidney or a cadaveric kidney donation. In 2016, 28 percent of transplanted kidneys were from living donors and the remainder were from cadaver donors (data not shown).

Chart 11-4. Asian Americans and Hispanics are among the fastest growing segments of the ESRD population

	Share of total in 2016	Average annual percent change 2011–2016
Total (*N* = 726,331)	100%	3%
Age (years)		
0–17	1	0.2
18–44	15	1
45–64	44	3
65–79	32	6
80+	9	4
Sex		
Male	58	4
Female	42	3
Race/ethnicity		
White	61	3
African American	30	3
Native American	1	2
Asian American	6	6
Hispanic	18	5
Non-Hispanic	80	3
Unknown	2	0.7
Underlying cause of ESRD		
Diabetes	38	4
Hypertension	26	4
Glomerulonephritis	16	2
Other causes	20	3

Note: ESRD (end-stage renal disease). Totals may not equal sum of the components due to rounding. ESRD patients include those who undergo maintenance dialysis and those who have a functioning kidney transplant.

Source: Compiled by MedPAC from the United States Renal Data System.

- Among ESRD patients, 41 percent are over age 65. About 60 percent are White.
- Diabetes is the most common cause of renal failure.
- The number of ESRD patients increased by 3 percent annually between 2011 and 2016. Among the fastest growing groups of patients are patients between the ages of 65 and 79, Asian Americans, and Hispanics.

Chart 11-5. Characteristics of Medicare fee-for-service dialysis patients, 2017

	Share of all FFS dialysis patients
Age (years)	
Under 45	11%
45–64	38
65–74	28
75–84	18
85+	6
Sex	
Male	56
Female	44
Race	
White	48
African American	36
All other	16
Residence	
Urban county	84
Rural county, micropolitan	10
Rural county, adjacent to urban	5
Rural county, not adjacent to urban	2
Frontier county	1
Prescription drug coverage status	
Enrolled in Part D plan or other source of creditable drug coverage	89
LIS	57
Dually eligible for Medicare and Medicaid	48

Note: FFS (fee-for-service), LIS (low-income [drug] subsidy). Urban counties contain a core area with 50,000 or more people, rural micropolitan counties contain at least one cluster of at least 10,000 and fewer than 50,000 people, rural counties adjacent to urban areas do not have a city of 10,000 people in the county, and rural counties not adjacent to urban areas do not have a city of 10,000 people. Frontier counties are counties with six or fewer people per square mile. Totals may not sum to 100 percent due to rounding.

Source: MedPAC analysis of dialysis claims files and denominator files from CMS.

- Compared with all Medicare patients, FFS dialysis patients are disproportionately younger and African American (see Chart 2-5).
- In 2017, about 17 percent of FFS dialysis patients resided in a rural county.
- Nearly half of all dialysis patients were dually eligible for Medicare and Medicaid services.
- Nearly 90 percent of FFS dialysis patients were enrolled in Part D plans or had other sources of creditable drug coverage.

Chart 11-6. Aggregate margins varied by type of freestanding dialysis facility, 2017

Type of facility	Share of freestanding dialysis treatments	Aggregate margin
All facilities	100%	–1.1%
Urban	88	–0.4
Rural	12	–5.5
Treatment volume (quintile)		
Lowest	7	–21.3
Second	12	–10.6
Third	17	–3.4
Fourth	24	0.8
Highest	39	5.4

Note: Margins include payments and costs for composite rate services, injectable drugs, and other end-stage renal disease–related services. Total may not sum to 100 percent due to rounding.

Source: Compiled by MedPAC from 2017 cost reports and the 2017 institutional outpatient file from CMS.

- For 2017, the aggregate Medicare margin for composite rate services and injectable drugs was –1.1 percent.
- Generally, freestanding dialysis facilities' margins vary by the size of the facility; facilities with greater treatment volume have higher margins on average. Differences in capacity and treatment volume explain some of the differences observed between the margins of urban and rural facilities. Urban facilities are larger on average than rural facilities with respect to the number of dialysis treatment stations and Medicare treatments provided. Some rural facilities have benefited from the low-volume adjustment that is included in the new end-stage renal disease payment method that began in 2011.

Chart 11-7. Hospice spending and use increased in 2017

	2000	2016	2017	Average annual change, 2000–2016	Change, 2016–2017
Medicare payments (in billions)	$2.9	$16.8	$17.9	11.6%	6.4%
Beneficiaries in hospice (in millions)	0.534	1.427	1.492	6.3%	4.6%
Number of hospice days for all hospice beneficiaries (in millions)	25.8	101.2	106.3	8.9%	5.1%
Average length of stay among decedents (in days)	53.5	87.8	88.6	3.1%	0.9%
Median length of stay among decedents (in days)	17	18	18	1 day*	0 day*

Note: Average length of stay is calculated for decedents who used hospice at the time of death or before death and reflects the total number of days the decedent was enrolled in the Medicare hospice benefit during his/her lifetime. Due to rounding, the percentage change displayed in the chart may not equal the percentage change calculated using the yearly data displayed in the chart.
*This figure reflects the raw change rather than the percentage change.

Source: MedPAC analysis of the denominator file, the Medicare Beneficiary Database, and the 100 percent hospice claims standard analytic file from CMS.

- Total Medicare payments to hospices were about $17.9 billion in 2017, 6 percent higher than the prior year.
- The number of Medicare beneficiaries receiving hospice services, total number of days of hospice care, and average length of stay continued to grow in 2017.

Chart 11-8. Hospice use increased across beneficiary groups from 2000 to 2017

	Share of decedents using hospice			Average annual percentage point change	Percentage point change
	2000	2016	2017	2000–2016	2016–2017
All	22.9%	49.7%	50.4%	1.7	0.7%
FFS beneficiaries	21.5	48.7	49.5	1.7	0.8
MA beneficiaries	30.9	51.9	52.4	1.3	0.5
Dual eligibles	17.5	44.1	44.9	1.7	0.8
Non–dual eligibles	24.5	51.5	52.1	1.7	0.6
Age (years)					
<65	17.0	30.1	30.4	0.8	0.3
65–84	24.7	46.8	47.1	1.4	0.3
85+	21.4	59.2	60.3	2.4	1.1
Race/ethnicity					
White	23.8	51.8	52.5	1.8	0.7
Minority	17.3	39.1	39.6	1.4	0.5
Gender					
Male	22.4	45.4	46.0	1.4	0.6
Female	23.3	53.7	54.5	1.9	0.8
Beneficiary location					
Urban	24.2	50.8	51.3	1.7	0.5
Micropolitan	18.3	46.3	47.2	1.8	0.9
Rural, adjacent to urban	17.5	45.7	46.9	1.8	1.2
Rural, nonadjacent to urban	15.0	40.3	41.5	1.6	1.2
Frontier	13.1	33.8	34.4	1.3	0.6

Note: FFS (fee-for-service), MA (Medicare Advantage). "Beneficiary location" refers to the beneficiary's county of residence. Urban, micropolitan, and rural designations are based on the urban influence codes. This chart uses the 2013 urban influence code definition. The frontier category is defined as population density equal to or less than six persons per square mile.

Source: MedPAC analysis of data from the denominator file and the Medicare Beneficiary Database from CMS.

- Hospice use grew in all beneficiary groups in 2017, continuing the trend of a growing proportion of beneficiaries using hospice at the end of life.
- Despite this growth, hospice use continued to vary by demographic and beneficiary characteristics. Medicare decedents who were MA enrollees, not dual eligible, older, White, female, or living in an urban area were more likely to use hospice than their respective counterparts.

Chart 11-9. Number of Medicare-participating hospices has increased due to growth in for-profit hospices

	2000	2015	2016	2017
All hospices	2,255	4,199	4,382	4,488
For profit	672	2,729	2,940	3,097
Nonprofit	1,324	1,294	1,274	1,230
Government	257	176	168	160
Freestanding	1,069	3,163	3,369	3,519
Hospital based	785	517	501	471
Home health based	378	494	487	475
SNF based	22	25	25	22
Urban	1,455	3,235	3,474	3,587
Rural	757	920	901	878

Note: SNF (skilled nursing facility). Numbers may not sum to totals because of missing data for a small number of providers. The rural and urban definitions in this chart are based on updated definitions of the core-based statistical areas (which rely on data from the 2010 census).

Source: MedPAC analysis of Medicare cost reports, Provider of Services file, and the standard analytic file of hospice claims from CMS.

- There were 4,488 Medicare-participating hospices in 2017. Almost 70 percent of them were for-profit hospices.
- The number of Medicare-participating hospices grew by roughly 100 providers between 2016 and 2017 and has nearly doubled since 2000. For-profit hospices accounted entirely for the net growth.
- Growth in the number of providers has occurred predominantly among freestanding providers. The number of hospital-based and home health–based providers has declined. The number of SNF-based providers is small and has changed little over the years. (A hospice's status as freestanding versus hospital based, home health based, or SNF based reflects the type of cost report submitted by the provider and does not necessarily reflect the location of care.)
- The number of hospices located in rural areas has declined in the last several years, decreasing about 5 percent between 2015 and 2017. The number of providers located in rural areas is not necessarily an indicator of access to care. The share of rural decedents using hospice has been increasing since 2000 (see Chart 11-8).

Chart 11-10. Hospice cases and length of stay, by diagnosis, 2017

Diagnosis	Share of total cases	Share of cases with length of stay greater than 180 days
Cancer	26%	9%
Alzheimer's, nervous system disorders, organic psychosis	23	34
Circulatory, except heart failure	19	24
Heart failure	9	23
Respiratory disease	6	15
Other	6	15
Chronic airway obstruction, NOS	5	28
Genitourinary disease	3	9
Digestive disease	2	9
All	100	21

Note: NOS (not otherwise specified). Cases include all patients who received hospice care in 2017, not just decedents. "Diagnosis" reflects primary diagnosis on the beneficiary's last hospice claim in 2017. The share of cases with length of stay greater than 180 days reflects the share of hospice patients who received hospice care in 2017 whose lifetime length of hospice stay exceeded 180 days at the end of 2017 (or at the time of death or discharge in 2017 if the beneficiary was not enrolled in hospice at the end of 2017). "Share of total cases" may not sum to 100 percent due to rounding.

Source: MedPAC analysis of 100 percent hospice claims standard analytic file from CMS and the Medicare Beneficiary Database.

- In 2017, the most common primary diagnoses among Medicare hospice patients were cancer (26 percent), neurological conditions (Alzheimer's disease, nervous system disorders, and organic psychosis) (23 percent of cases), circulatory conditions other than heart failure (19 percent), and heart failure (9 percent).

- Length of stay varies by diagnosis. Long hospice stays were most common among patients with Alzheimer's disease and other nervous system disorders, chronic airway obstruction, circulatory conditions, and heart failure. Long hospice stays were least common among beneficiaries with cancer, genitourinary disease, and digestive disease.

Chart 11-11. Hospice average length of stay among decedents increased slightly in 2017

Year	Average length of stay (in days)	Percentiles of length of stay (in days)				
		10th	25th	50th	75th	90th
2000	53.5	3	6	17	56	141
2005	71.3	3	5	17	67	194
2010	86.1	3	5	17	77	240
2011	86.3	2	5	17	78	240
2012	88.0	2	5	18	80	246
2013	87.8	2	5	17	79	246
2014	88.2	2	5	17	79	247
2015	86.7	2	5	17	80	240
2016	87.8	2	5	18	82	244
2017	88.6	2	5	18	82	248

Note: Data reflect hospice length of stay for Medicare decedents who used hospice at the time of death or before death. "Length of stay" reflects the total number of days the decedent was enrolled in the Medicare hospice benefit during his or her lifetime.

Source: MedPAC analysis of the denominator file and the Medicare Beneficiary Database from CMS.

- Average length of stay among decedents was 88.6 days in 2017, a slight increase from 2016. Average length of stay grew substantially between 2000 (53.5 days) and 2012 (88.0 days) and has oscillated modestly since then.
- There is wide variation in hospice length of stay. In 2017, hospice length of stay among decedents ranged from 2 days at the 10th percentile to 248 days at the 90th percentile.
- Since 2000, growth in average length of stay among decedents has largely been the result of increases in length of stay for patients with the longest stays. Length of stay at the 90th percentile was more than 100 days greater in 2017 than in 2000.
- Short stays in hospice have changed little since 2000. Among decedents, median length of stay was 18 days in 2017 and has been 17 or 18 days since 2000. Hospice length of stay at the 10th percentile (two days) and 25th percentile (five days) has been unchanged for more than five years.

Chart 11-12. Hospice length of stay among decedents, by beneficiary and hospice characteristics, 2017

	Average length of stay (in days)	Length of stay percentiles (in days)		
		10th	50th	90th
Beneficiary				
Diagnosis				
Cancer	52	3	17	129
Neurological	149	4	36	440
Heart/circulatory	94	2	16	279
COPD	118	2	27	344
Other	54	2	17	148
Site of service				
Home	91	4	26	242
Nursing facility	105	3	20	307
Assisted living facility	153	5	51	436
Hospice				
For profit	109	3	23	319
Nonprofit	67	2	13	181
Freestanding	91	2	18	259
Home health based	68	2	14	186
Hospital based	56	2	12	149

Note: COPD (chronic obstructive pulmonary disease). Average length of stay is calculated for Medicare beneficiaries who died in 2017 and used hospice that year, and it reflects the total number of days the decedent was enrolled in the Medicare hospice benefit during his or her lifetime. "Diagnosis" reflects primary diagnosis on the beneficiary's last hospice claim.

Source: MedPAC analysis of 100 percent hospice claims standard analytic file data, Medicare Beneficiary Database, Medicare hospice cost reports, and Provider of Services file data from CMS.

- Hospice average length of stay among decedents varies by both beneficiary and provider characteristics. Most of this variation reflects differences in length of stay among patients with the longest stays (i.e., at the 90th percentile). Length of stay varies much less for patients with shorter stays (i.e., at the 10th or 50th percentile).
- Beneficiaries with neurological conditions and COPD have the longest stays while beneficiaries with cancer have the shortest stays, on average.
- Beneficiaries who receive hospice services in assisted living facilities have longer stays on average than beneficiaries who receive care at home or in a nursing facility.
- For-profit and freestanding hospices have longer average lengths of stay than nonprofit and provider-based (home health–based and hospital-based) hospices.

Chart 11-13. More than half of Medicare hospice spending in 2017 was for patients with stays exceeding 180 days

	Medicare hospice spending, 2017 (in billions)
All hospice users in 2016	$17.9
Beneficiaries with LOS > 180 days	10.1
Days 1–180	3.4
Days 181–365	3.2
Days 366+	3.6
Beneficiaries with LOS ≤ 180 days	7.8

Note: LOS (length of stay). LOS reflects the beneficiary's lifetime LOS as of the end of 2017 (or at the time of death or discharge in 2017 if the beneficiary was not enrolled in hospice at the end of 2017). All spending reflected in the chart occurred only in 2017. Break-out groups do not sum to total because of rounding.

Source: MedPAC analysis of 100 percent hospice claims standard analytic file data and the common Medicare enrollment file from CMS.

- In 2017, Medicare hospice spending on patients with stays exceeding 180 days was about $10.1 billion, more than half (56 percent) of all Medicare hospice spending that year.
- About $3.6 billion, or about 20 percent, of Medicare hospice spending in 2017 was on hospice care for patients who had already received at least one year of hospice.

Chart 11-14. Hospice aggregate Medicare margins, 2012–2016

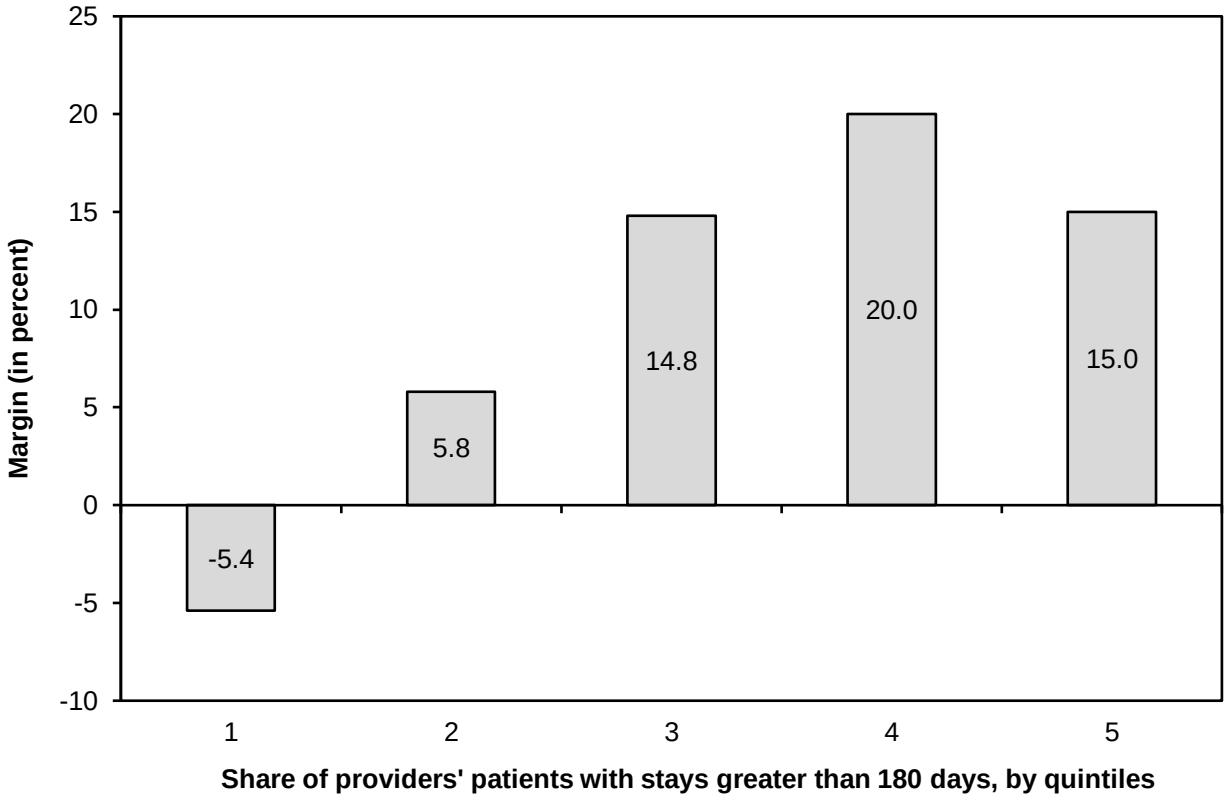
	Share of hospices (2016)	Medicare margin				
		2012	2013	2014	2015	2016
All	100%	10.0%	8.5%	8.2%	9.9%	10.9%
Freestanding	77	13.3	12.0	11.6	13.8	13.9
Home health based	11	5.5	2.5	3.7	3.3	6.2
Hospital based	11	–17.1	–17.4	–20.8	–23.8	–16.7
For profit	67	15.4	14.7	14.6	16.5	16.8
Nonprofit	29	3.6	0.9	–0.9	0.1	2.7
Government	4	N/A	N/A	N/A	N/A	N/A
Urban	79	10.3	8.8	8.7	10.4	11.4
Rural	21	7.3	5.9	3.3	4.8	6.2
Below cap	87.3	10.3	8.6	8.4	9.9	10.7
Above cap	12.7	5.2	7.0	6.0	9.8	12.6
Above cap (including cap overpayments)	12.7	21.3	20.1	18.8	21.4	20.2

Note: N/A (not available). Margins for all provider categories exclude overpayments to above-cap hospices except where specifically indicated. Margins are calculated based on Medicare-allowable, reimbursable costs. The percentages of freestanding and provider-based (home health–based and hospital-based) hospices do not sum to 100 percent because skilled nursing facility–based hospices are not broken out separately.

Source: MedPAC analysis of Medicare hospice cost reports, 100 percent hospice claims standard analytic file, and Medicare Provider of Services data from CMS.

- The aggregate Medicare margin was 10.9 percent in 2016, up from 9.9 percent in 2015.
- In 2016, freestanding hospices had higher margins (13.9 percent) than home health–based (6.2 percent) and hospital-based hospices (–16.7 percent).
- The 2016 margin among for-profit hospices was high at 16.8 percent. Nonprofit hospices as a group had a margin of 2.7 percent in 2016, but the subset of nonprofit hospices that were freestanding had a higher margin, 6.4 percent (latter figure not shown in chart).
- The aggregate 2016 margin was higher for urban hospices (11.4 percent) than rural hospices (6.2 percent).
- Hospices that exceeded the cap (Medicare's aggregate average per beneficiary payment limit) had a 2016 margin of about 20 percent before the return of the cap overpayments.

Chart 11-15. Medicare margins were higher among hospices with more long stays, 2016



Note: Margins exclude overpayments to hospices that exceeded the cap on the average annual Medicare payment per beneficiary. Margins are calculated based on Medicare-allowable, reimbursable costs. For hospice providers in the lowest (first) quintile, the share of stays greater than 180 days was less than 12.9 percent; it was between 12.9 percent and 20.0 percent in the second quintile; it was between 20.0 percent and 26.5 percent in the third quintile; it was between 26.5 percent and 34.1 percent in the fourth quintile; and it was greater than 34.1 percent in the highest (fifth) quintile.

Source: MedPAC analysis of Medicare hospice cost reports and 100 percent hospice claims standard analytic file from CMS.

- Medicare's per diem payment system for hospice has provided an incentive for longer lengths of stay.
- Hospices with more patients who had stays greater than 180 days generally had higher margins in 2016. Hospices in the lowest length-of-stay quintile had a margin of –5.4 percent compared with a 20.0 percent margin for hospices in the second highest length-of-stay quintile.

(Chart continued next page)

Chart 11-15. Medicare margins were higher among hospices with more long stays, 2016 (continued)

- Margins were somewhat lower in the highest length-of-stay quintile (15.0 percent) compared with the second highest quintile (20.0 percent) because some hospices in the highest quintile exceeded Medicare's aggregate payment cap and were required to repay the overage. Hospices exceeding the cap had a margin of about 20 percent before the return of overpayments (see Chart 11-14).

- The 2016 margin estimates reflect hospices' financial performance in the first year of the new payment system, which began January 2016. (Because some providers' cost report years begin before January, the 2016 margins include some payments made under the old payment system. However, we estimate about 90 percent of payments reflected in the 2016 margins were made under the new payment system.)

- The 2016 payment reforms modestly reduced the variation in profitability by length of stay. In 2015, there was a 29 percentage point spread in the margins between the lowest length of stay quintile (–8.9 percent) and the second highest length of stay quintile (20.4 percent) (data not shown). In 2016, the difference in margins between those length of stay quintiles narrowed slightly to 25 percentage points, as shown in the chart.

Chart 11-16. Hospices that exceeded Medicare's annual payment cap, selected years

	2002	2013	2014	2015	2016
Share of hospices exceeding the cap	2.6%	10.7%	12.2%	12.3%	12.7%
Average payments over the cap per hospice exceeding the cap (in thousands)	$470	$460	$370	$320	$295
Payments over the cap as a share of overall Medicare hospice spending	0.6%	1.3%	1.2%	1.0%	1.0%

Note: The cap year is defined as the period beginning November 1 and ending October 31 of the following year. These estimates of hospices that exceeded the aggregate cap are based on the Commission's analyses. While the estimates are intended to approximate those of the Medicare claims-processing contractors, they are not necessarily identical to the contractors' estimates because of differences in available data and methodology.

Source: MedPAC analysis of 100 percent hospice claims standard analytic file data, Medicare hospice cost reports, Provider of Services file data from CMS, and CMS Providing Data Quickly system. Data on total spending for each fiscal year are from the CMS Office of the Actuary.

- The share of hospices exceeding the aggregate cap was 12.7 percent in 2016, up slightly from 2015.
- Medicare payments over the cap represented 1.0 percent of total Medicare hospice spending in 2016.
- On average, above-cap hospices exceeded the cap by about $295,000 per provider in 2016, down from about $320,000 per provider in 2015.

Chart 11-17. Hospice live-discharge rates, 2013–2017

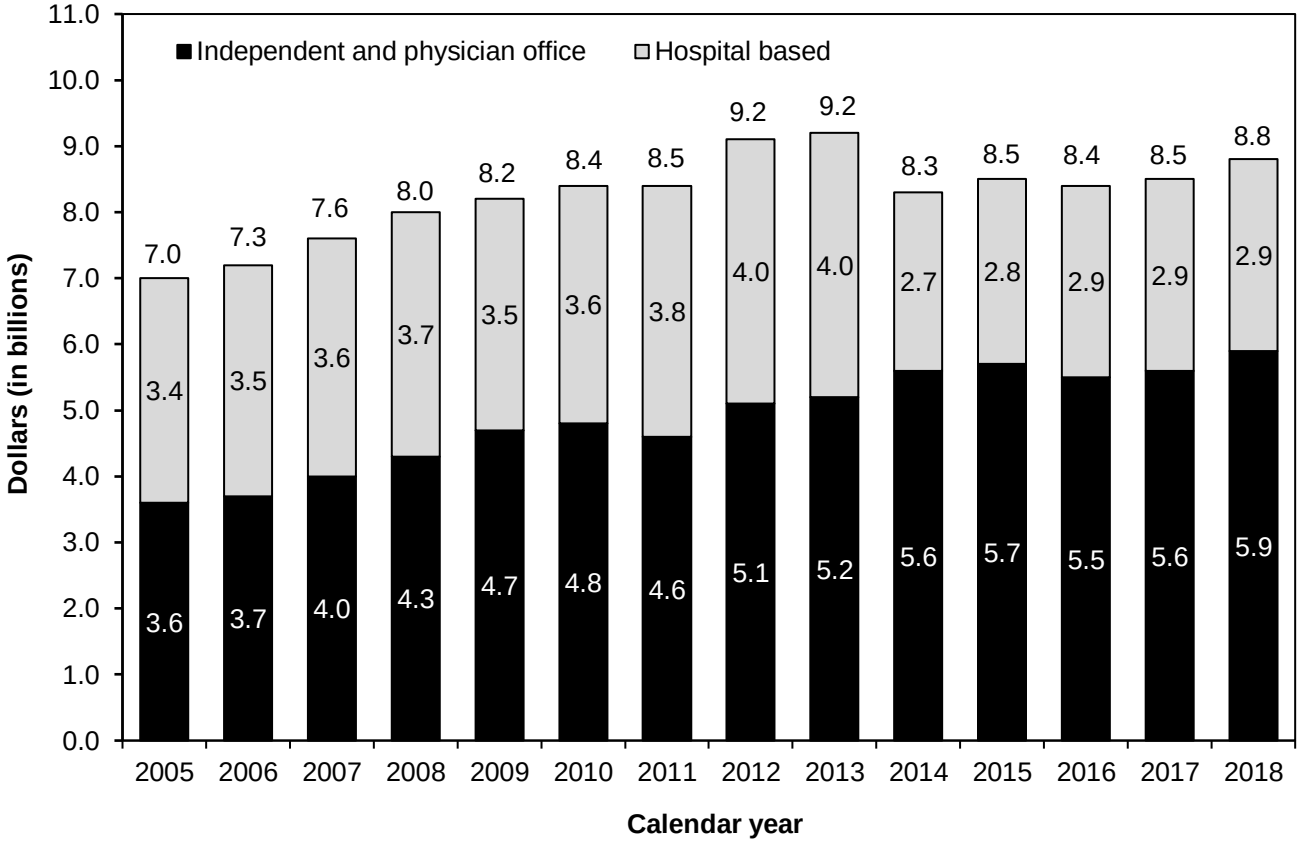
	2013	2015	2016	2017
Live discharge as a share of all discharges, by reason for live discharge				
All live discharges	18.4%	16.7%	16.9%	16.7%
No longer terminally ill	7.8	6.9	6.8	6.5
Beneficiary revocation	7.3	6.3	6.4	6.4
Transfer hospice providers	2.0	2.1	2.1	2.1
Move out of service area	0.9	1.0	1.2	1.4
Discharge for cause	0.4	0.3	0.3	0.3
Providers' overall rate of live discharge as a share of all discharges, by percentile				
10th percentile	9.3	8.4	8.3	8.3
25th percentile	13.2	12.0	12.2	12.6
50th percentile	19.4	18.4	19.1	19.3
75th percentile	30.2	29.6	31.3	31.8
90th percentile	47.2	50.0	53.3	53.0

Note: Percentages may not sum to totals due to rounding. "All discharges" includes patients discharged alive or deceased.

Source: MedPAC analysis of 100 percent hospice claims standard analytic file.

- In 2017, the overall live-discharge rate was 16.7 percent, and has changed little since 2015.
- The most common reasons for live discharge were the beneficiary no longer being terminally ill and the beneficiary revoking the hospice benefit, with each accounting for just over 38 percent of live discharges, and about 6.5 percent of all discharges. Less frequent reasons for live discharges were: a beneficiary transferring hospice providers, a beneficiary moving out of the service area, and a beneficiary being discharged for cause.
- Live discharges accounted for more than half of total discharges for the 10 percent of hospices with the highest live-discharge rates (i.e., the 90th percentile) in 2017.

Chart 11-18. Medicare spending for clinical laboratory services, 2005–2018



Note: Spending is for services paid under the clinical laboratory fee schedule. Hospital-based services are furnished in labs owned or operated by hospitals. The components of each bar may not sum to the total at the top of each bar due to rounding. The spending data include only program payments; there is no beneficiary cost sharing for clinical lab services.

Source: The annual report of the Boards of Trustees of the Medicare trust funds, 2015 and 2019.

- Medicare spending for clinical laboratory services in all settings grew by an average of 3.4 percent per year between 2005 and 2013.
- From 2013 to 2014, Medicare spending for lab services declined by about 9 percent because, beginning in 2014, many lab tests provided in hospital outpatient departments are no longer paid separately under the clinical lab fee schedule. Instead, many of these tests are packaged with their associated visits or procedures under the hospital outpatient prospective payment system.
- Medicare spending for lab services increased by an average of 0.9 percent per year from 2014 to 2017.
- Beginning in 2018, clinical laboratory fee schedule payment rates are based on private sector rates. From 2017 to 2018, Medicare spending for lab services grew 3.4 percent.

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